

=> fil reg  
FILE 'REGISTRY' ENTERED AT 10:34:40 ON 26 JAN 2006  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 24 JAN 2006 HIGHEST RN 872575-89-8  
DICTIONARY FILE UPDATES: 24 JAN 2006 HIGHEST RN 872575-89-8

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

\*\*\*\*\*  
\*  
\* The CA roles and document type information have been removed from \*  
\* the IDE default display format and the ED field has been added, \*  
\* effective March 20, 2005. A new display format, IDERL, is now \*  
\* available and contains the CA role and document type information. \*  
\*  
\*\*\*\*\*

Structure search iteration limits have been increased. See HELP SLIMITS  
for details.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> d ide can tot

L48 ANSWER 1 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 402834-54-2 REGISTRY  
ED Entered STN: 26 Mar 2002  
CN Prevastein (9CI) (CA INDEX NAME)  
ENTE A commercial soy isoflavone concentrate containing 5% isoflavones, 10.16%  
saponins, 35% total carbohydrates, 7% lecithin, 2% fats and 33% proteins  
(Central Soya Co., Fort Wayne, IN)  
MF Unspecified  
CI MAN  
SR CA  
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

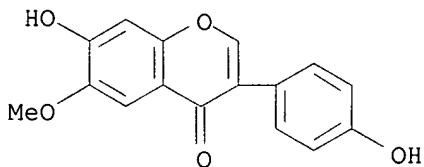
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
3 REFERENCES IN FILE CA (1907 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 144:22231

REFERENCE 2: 139:296915

REFERENCE 3: 136:216936

L48 ANSWER 2 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 40957-83-3 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 7,4'-Dihydroxy-6-methoxyisoflavone  
 CN Glycetein  
 CN Glycitein  
 FS 3D CONCORD  
 MF C16 H12 O5  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CIN, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NAPRALERT, PIRA, PROMT, SPECINFO, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

462 REFERENCES IN FILE CA (1907 TO DATE)  
 8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 465 REFERENCES IN FILE CAPLUS (1907 TO DATE)

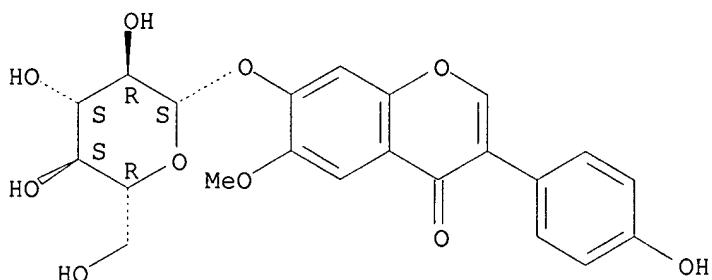
REFERENCE 1: 144:50647  
 REFERENCE 2: 144:50363  
 REFERENCE 3: 144:48570  
 REFERENCE 4: 144:31944  
 REFERENCE 5: 144:22231  
 REFERENCE 6: 144:21951  
 REFERENCE 7: 144:19605  
 REFERENCE 8: 144:5995  
 REFERENCE 9: 144:2649  
 REFERENCE 10: 143:476904

L48 ANSWER 3 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 40246-10-4 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA INDEX NAME)

## OTHER NAMES:

CN Glycitein 7-O- $\beta$ -glucoside  
 CN Glycitein 7-O-glucoside  
 CN Glycitein-7- $\beta$ -O-glucoside  
 CN Glycitin  
 FS STEREOSEARCH  
 MF C22 H22 O10  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS, CA, CAPLUS, CASREACT,  
 CHEMCATS, CSCHEM, NAPRALERT, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

297 REFERENCES IN FILE CA (1907 TO DATE)  
 9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 298 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 144:50363  
 REFERENCE 2: 144:31944  
 REFERENCE 3: 144:19605  
 REFERENCE 4: 144:2649  
 REFERENCE 5: 143:476904  
 REFERENCE 6: 143:439339  
 REFERENCE 7: 143:438729  
 REFERENCE 8: 143:421333  
 REFERENCE 9: 143:404879  
 REFERENCE 10: 143:366048

L48 ANSWER 4 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 10035-10-6 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Hydrobromic acid (8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN Anhydrous hydrobromic acid  
 CN Bromohydric acid

CN Hydrogen bromide  
 CN Hydrogen bromide (H2Br2)  
 CN Hydrogen bromide (HBr)  
 CN Hydrogen monobromide  
 CN NSC 606640  
 DR 62140-56-1  
 MF Br H  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, DIOGENES, DIPPR\*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

HBr

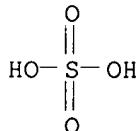
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

11794 REFERENCES IN FILE CA (1907 TO DATE)  
 126 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 11821 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 144:77366  
 REFERENCE 2: 144:75579  
 REFERENCE 3: 144:72352  
 REFERENCE 4: 144:72320  
 REFERENCE 5: 144:72319  
 REFERENCE 6: 144:72318  
 REFERENCE 7: 144:72311  
 REFERENCE 8: 144:72310  
 REFERENCE 9: 144:72307  
 REFERENCE 10: 144:70198

L48 ANSWER 5 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 7664-93-9 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN BOV  
 CN Brimstone acid  
 CN Contact acid  
 CN Dihydrogen sulfate  
 CN Dipping acid  
 CN NSC 248648

CN NSC 38965  
 CN Oil of vitriol  
 CN Ridolene 123  
 CN Sulphuric acid  
 CN Vitriol brown oil  
 FS 3D CONCORD  
 DR 127529-01-5, 119540-51-1, 140623-70-7  
 MF H2 O4 S  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA, CABA,  
     CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST,  
     CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DIPPR\*, DRUGU, EMBASE,  
     ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB,  
     IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA,  
     PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2,  
     USPATFULL, VTB  
     (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

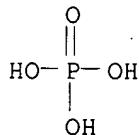
100564 REFERENCES IN FILE CA (1907 TO DATE)  
 5103 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 100723 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:80275  
 REFERENCE 2: 144:79632  
 REFERENCE 3: 144:79622  
 REFERENCE 4: 144:79311  
 REFERENCE 5: 144:79264  
 REFERENCE 6: 144:78968  
 REFERENCE 7: 144:77737  
 REFERENCE 8: 144:76419  
 REFERENCE 9: 144:76415  
 REFERENCE 10: 144:76405

L48 ANSWER 6 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 7664-38-2 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Phosphoric acid (7CI, 8CI, 9CI) (CA INDEX NAME)

## OTHER NAMES:

CN 3M Etching Liquid  
 CN Amberphos 54  
 CN C 134  
 CN C 134 (acid)  
 CN C 434  
 CN C 434 (acid)  
 CN Conditioner 36  
 CN Decon 4512  
 CN E 338  
 CN Etchalite  
 CN EVITs  
 CN HQ 54  
 CN K-etchant  
 CN Kefo  
 CN Kerr Etchant  
 CN Mikro Kleene DF  
 CN NSC 80804  
 CN Orthophosphoric acid  
 CN Panavia Etching Agent  
 CN Sonac  
 CN SPA 2  
 CN SPA 2 (catalyst)  
 CN TG 434  
 CN Total Etch  
 CN Ultra-Etch Gel  
 CN Ultraetch  
 CN Uni-Etch  
 CN WC-Reiniger  
 FS 3D CONCORD  
 DR 28602-75-7, 178560-73-1  
 MF H3 O4 P  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA, CABA,  
     CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN,  
     CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DIPPR\*, DRUGU, EMBASE,  
     ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB,  
     IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC,  
     PDLCOM\*, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN,  
     USPAT2, USPATFULL, VETU, VTB  
     (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

64481 REFERENCES IN FILE CA (1907 TO DATE)  
 9107 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 64569 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:80257  
 REFERENCE 2: 144:80017  
 REFERENCE 3: 144:79630  
 REFERENCE 4: 144:79622  
 REFERENCE 5: 144:79553  
 REFERENCE 6: 144:79396  
 REFERENCE 7: 144:79298  
 REFERENCE 8: 144:77789  
 REFERENCE 9: 144:75581  
 REFERENCE 10: 144:75578

L48 ANSWER 7 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 7647-01-0 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Hydrochloric acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN Anhydrous hydrochloric acid  
 CN Chloridric acid  
 CN Chlorohydric acid  
 CN Dilute hydrochloric acid  
 CN Enplate PO 236  
 CN Hydrochloric acid gas  
 CN Hydrogen chloride  
 CN Hydrogen chloride (HCl)  
 CN Muriatic acid  
 CN NSC 77365  
 DR 113962-65-5, 51005-19-7, 61674-62-2, 218625-68-4  
 MF Cl H  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA,  
 CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST,  
 CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, DIOGENES, DIPPR\*, EMBASE,  
 ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB,  
 IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA,  
 PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2,  
 USPATFULL, VTB  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

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\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

91774 REFERENCES IN FILE CA (1907 TO DATE)  
 580 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 91942 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 40 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:80231  
 REFERENCE 2: 144:80177  
 REFERENCE 3: 144:79972  
 REFERENCE 4: 144:79951  
 REFERENCE 5: 144:79533  
 REFERENCE 6: 144:79477  
 REFERENCE 7: 144:79396  
 REFERENCE 8: 144:78968  
 REFERENCE 9: 144:78926  
 REFERENCE 10: 144:78884

L48 ANSWER 8 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN

RN 552-66-9 REGISTRY

ED Entered STN: 16 Nov 1984

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-  
 (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Daidzin (6CI, 7CI, 8CI)

OTHER NAMES:

CN 7,4'-Dihydroxyisoflavone 7-glucoside

CN Daidzein 7-glucoside

CN Daidzein 7-O-glucoside

CN Daidzoside

CN NPI 031D

FS STEREOSEARCH

DR 1329-08-4, 28572-56-7

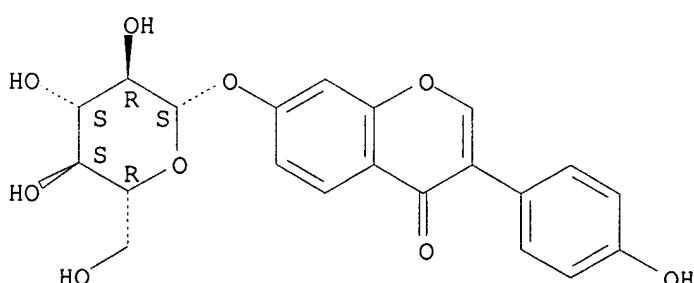
MF C21 H20 O9

CI COM

LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS,  
 BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CIN, CSCHEM, DDFU,  
 DRUGU, EMBASE, IMSRESEARCH, IPA, MEDLINE, PHAR, PROMT, RTECS\*,  
 TOXCENTER, USPAT2, USPATFULL

(\*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (-).



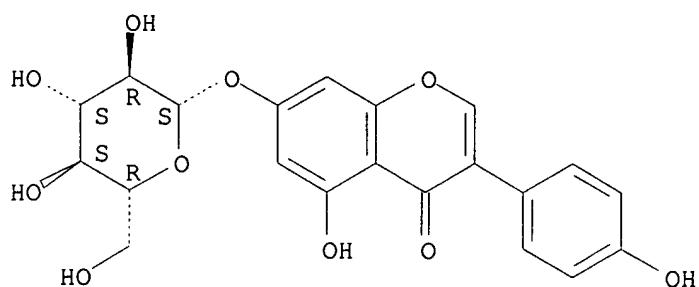
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

853 REFERENCES IN FILE CA (1907 TO DATE)  
 14 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 857 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:68873  
 REFERENCE 2: 144:66756  
 REFERENCE 3: 144:57713  
 REFERENCE 4: 144:50363  
 REFERENCE 5: 144:48237  
 REFERENCE 6: 144:31963  
 REFERENCE 7: 144:31944  
 REFERENCE 8: 144:27747  
 REFERENCE 9: 144:19605  
 REFERENCE 10: 144:2649

L48 ANSWER 9 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 529-59-9 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-5-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Genistin (6CI, 7CI, 8CI)  
 OTHER NAMES:  
 CN 4',5,7-Trihydroxyisoflavone 7- $\beta$ -D-glucopyranoside  
 CN Genistein 7-O- $\beta$ -D-glucopyranoside  
 CN Genistein 7-O- $\beta$ -D-glucoside  
 CN Genistein 7-O- $\beta$ -glucoside  
 CN Genistein 7-O-glucoside  
 CN Genistein, 7- $\beta$ -D-glucopyranoside  
 CN Genisteol 7-monoglucoside  
 CN Genistine  
 CN Genistoside  
 CN NSC 5112  
 FS STEREOSEARCH  
 DR 25449-68-7, 30370-89-9, 100455-46-7  
 MF C21 H20 O10  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK\*, NAPRALERT, PROMT, RTECS\*, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

921 REFERENCES IN FILE CA (1907 TO DATE)  
 12 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 923 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:68873  
 REFERENCE 2: 144:57713  
 REFERENCE 3: 144:50363  
 REFERENCE 4: 144:48237  
 REFERENCE 5: 144:35442  
 REFERENCE 6: 144:31963  
 REFERENCE 7: 144:31944  
 REFERENCE 8: 144:19765  
 REFERENCE 9: 144:19605  
 REFERENCE 10: 144:11283

L48 ANSWER 10 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 486-66-8 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Daidzein (6CI)  
 CN Isoflavone, 4',7-dihydroxy- (8CI)

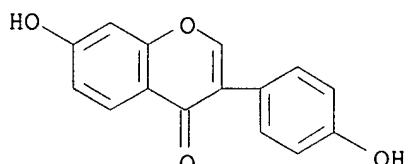
OTHER NAMES:

CN 4',7-Dihydroxyisoflavone  
 CN 7,4'-Dihydroxyisoflavone  
 CN 7-Hydroxy-3-(4-hydroxyphenyl)-4H-1-benzopyran-4-one  
 CN Daidzeol  
 CN Isoaurostatin  
 CN K 251b  
 CN NPI 031E  
 FS 3D CONCORD  
 MF C15 H10 O4  
 CI COM

LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IMSRESEARCH, IPA, MEDLINE, MRCK\*, NIOSHTIC, PIRA, PROMT, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)

Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2637 REFERENCES IN FILE CA (1907 TO DATE)  
 46 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2654 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 24 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:68873

REFERENCE 2: 144:66756

REFERENCE 3: 144:63949

REFERENCE 4: 144:57713

REFERENCE 5: 144:50691

REFERENCE 6: 144:50647

REFERENCE 7: 144:50363

REFERENCE 8: 144:48570

REFERENCE 9: 144:48237

REFERENCE 10: 144:46322

L48 ANSWER 11 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN

RN 446-72-0 REGISTRY

ED Entered STN: 16 Nov 1984

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Genistein (6CI)

CN Isoflavone, 4',5,7-trihydroxy- (8CI)

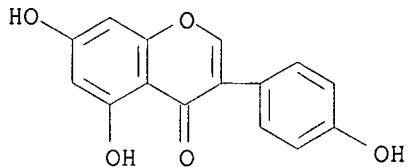
OTHER NAMES:

CN 4',5,7-Trihydroxyisoflavone

CN 5,7,4'-Trihydroxyisoflavone

CN Baichanin A

CN Bonistein  
 CN C.I. 75610  
 CN Genisteol  
 CN Genistein  
 CN NPI 031L  
 CN NSC 36586  
 CN Prunetol  
 CN SIPI 807-1  
 CN Sophoricol  
 FS 3D CONCORD  
 MF C15 H10 O5  
 CI COM  
 LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*,  
     BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
     CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK\*,  
     NAPRALERT, NIOSHTIC, PIRA, PROMT, PROUSDDR, RTECS\*, SPECINFO, TOXCENTER,  
     USPAT2, USPATFULL  
     (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)



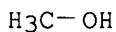
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4790 REFERENCES IN FILE CA (1907 TO DATE)  
 85 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 4826 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 34 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:74804  
 REFERENCE 2: 144:68873  
 REFERENCE 3: 144:68629  
 REFERENCE 4: 144:66756  
 REFERENCE 5: 144:65158  
 REFERENCE 6: 144:64050  
 REFERENCE 7: 144:63989  
 REFERENCE 8: 144:63949  
 REFERENCE 9: 144:57713  
 REFERENCE 10: 144:50691

L48 ANSWER 12 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 67-56-1 REGISTRY

ED    Entered STN: 16 Nov 1984  
 CN    Methanol (8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN    Bielecki's solution  
 CN    Carbinol  
 CN    Methanol cluster  
 CN    Methyl alcohol  
 CN    Methyl hydroxide  
 CN    Methyol  
 CN    Monohydroxymethane  
 CN    NSC 85232  
 CN    Solutions, Bielecki's  
 CN    Wood alcohol  
 FS    3D CONCORD  
 DR    54841-71-3  
 MF    C H4 O  
 CI    COM  
 LC    STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS,  
       BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
       CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*,  
       DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
       ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
       MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*,  
       SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB  
       (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
       (\*\*Enter CHEMLIST File for up-to-date regulatory information)



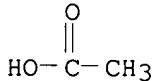
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

130661 REFERENCES IN FILE CA (1907 TO DATE)  
 1986 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 130931 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 20 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE    1: 144:80280  
 REFERENCE    2: 144:80262  
 REFERENCE    3: 144:80246  
 REFERENCE    4: 144:80226  
 REFERENCE    5: 144:79979  
 REFERENCE    6: 144:78270  
 REFERENCE    7: 144:77772  
 REFERENCE    8: 144:77737  
 REFERENCE    9: 144:77259

REFERENCE 10: 144:77238

L48 ANSWER 13 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
 RN 64-19-7 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN Aci-Jel  
 CN E 260  
 CN Ethanoic acid  
 CN Ethanoic acid monomer  
 CN Ethylic acid  
 CN Glacial acetic acid  
 CN Methanecarboxylic acid  
 CN NSC 111201  
 CN NSC 112209  
 CN NSC 115870  
 CN NSC 127175  
 CN NSC 132953  
 CN NSC 406306  
 CN Vinegar acid  
 FS 3D CONCORD  
 DR 77671-22-8  
 MF C2 H4 O2  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS,  
 BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
 CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*,  
 DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
 ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
 MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*,  
 SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

94593 REFERENCES IN FILE CA (1907 TO DATE)  
 4915 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 94835 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:80262

REFERENCE 2: 144:80051

REFERENCE 3: 144:79307

REFERENCE 4: 144:79300

REFERENCE 5: 144:78163

REFERENCE 6: 144:77766

REFERENCE 7: 144:77737

REFERENCE 8: 144:75575

REFERENCE 9: 144:75571

REFERENCE 10: 144:74866

L48 ANSWER 14 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN

RN 64-18-6 REGISTRY

ED Entered STN: 16 Nov 1984

CN Formic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Add-F

CN Ameisensaure

CN Aminic acid

CN Bilorin

CN Collo-Bueglatt

CN Collo-Didax

CN Ensilox

CN Formira

CN Formisoton

CN Formylic acid

CN Hydrogen carboxylic acid

CN Methanoic acid

CN Methanoic acid monomer

CN Myrmicyl

CN Sybest

CN Wonderbond Hardener M 600L

FS 3D CONCORD

DR 8006-93-7, 82069-14-5

MF C H2 O2

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSChem, CSNB, DDFU, DETHERM\*, DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

O—CH—OH

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

33329 REFERENCES IN FILE CA (1907 TO DATE)

1294 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

33395 REFERENCES IN FILE CAPLUS (1907 TO DATE)

2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:80257

REFERENCE 2: 144:79300  
REFERENCE 3: 144:74417  
REFERENCE 4: 144:74415  
REFERENCE 5: 144:72014  
REFERENCE 6: 144:71315  
REFERENCE 7: 144:70496  
REFERENCE 8: 144:69863  
REFERENCE 9: 144:69811  
REFERENCE 10: 144:69580

L48 ANSWER 15 OF 15 REGISTRY COPYRIGHT 2006 ACS on STN  
RN 64-17-5 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Ethanol (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Ethyl alcohol (6CI, 7CI, 8CI)  
OTHER NAMES:  
CN 100C.NPA  
CN AHD 2000  
CN Alcare Hand Degermer  
CN Alcohol  
CN Alcohol anhydrous  
CN Algrain  
CN Anhydrol  
CN Anhydrol PM 4085  
CN CDA 19  
CN CDA 19-200  
CN Desinfektol EL  
CN Duplicating Fluid 100C.NPA  
CN Esumiru WK 88  
CN Ethicap  
CN Ethyl hydrate  
CN Ethyl hydroxide  
CN Hinetoless  
CN IMS 99  
CN Infinity Pure  
CN Jaysol  
CN Jaysol S  
CN Lux  
CN Methylcarbinol  
CN Molasses alcohol  
CN NSC 85228  
CN Potato alcohol  
CN SDA 3A  
CN SDA 40-2  
CN Sekundasprit  
CN Sterillium Rub  
CN SY Fresh M  
CN Synasol  
CN Tecsol  
CN Tecsol C

FS 3D CONCORD  
 DR 8000-16-6, 8024-45-1, 121182-78-3  
 MF C2 H6 O  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS,  
 BIOTECHNO, CA, CABAB, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
 CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*,  
 DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
 ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*,  
 MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*,  
 SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

H<sub>3</sub>C—CH<sub>2</sub>—OH

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

187043 REFERENCES IN FILE CA (1907 TO DATE)  
 1606 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 187496 REFERENCES IN FILE CAPLUS (1907 TO DATE)  
 11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 144:80249  
 REFERENCE 2: 144:80246  
 REFERENCE 3: 144:79979  
 REFERENCE 4: 144:79632  
 REFERENCE 5: 144:79264  
 REFERENCE 6: 144:78316  
 REFERENCE 7: 144:78278  
 REFERENCE 8: 144:77772  
 REFERENCE 9: 144:77771  
 REFERENCE 10: 144:77737

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 FILE LAST UPDATED: 25 Jan 2006 (20060125/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L47 ANSWER 1 OF 9 HCPLUS COPYRIGHT 2006 ACS on STN  
 AN 2005:969060 HCPLUS  
 DN 144:2649  
 ED Entered STN: 06 Sep 2005  
 TI Supercritical fluid extraction of **isoflavones** from biological samples with ultra-fast high-performance liquid chromatography/mass spectrometry  
 AU Klejdus, Borivoj; Lojkova, Lea; Lapcik, Oldrich; Koblovska, Radka; Moravcova, Jitka; Kuban, Vlastimil  
 CS Department of Chemistry and Biochemistry, Mendel University of Agriculture and Forestry, Brno, Czech Rep.  
 SO Journal of Separation Science (2005), 28(12), 1334-1346  
 CODEN: JSSCCJ; ISSN: 1615-9306  
 PB Wiley-VCH Verlag GmbH & Co. KGaA  
 DT Journal  
 LA English  
 CC 9-16 (Biochemical Methods)  
 Section cross-reference(s): 11  
 AB An efficient method of modifier addition for supercrit. fluid extraction (SFE) of polar **isoflavones** was developed and yielded extraordinarily high recoveries. To find the optimal extraction conditions, a temperature and pressure optimization and modifier impact study was performed in naturally contaminated and spiked samples. Ultra-fast high-performance liquid chromatog./mass spectrometry (HPLC/MS) was used for the determination of **isoflavones** on an Atlantis dC18 high-speed reversed phase chromatog. column (20+2.1 mm, 3  $\mu$ m particle size). A newly elaborated supercrit. fluid extraction (SFE) procedure allowed more accurate (<5%) and precise (<4-7%) determination of **isoflavones** in biol. materials. The HPLC/MS method significantly reduced anal. time with simultaneous improvement of sensitivity and detection limits. The on-column limits of detection LOD (S/N = 3) for **isoflavone** glycosides (daidzin, genistin, glycitin, ononin, and sissotrin) were 1.3-3.6 fmol and 0.2-1.0 fmol for **aglycons** (daidzein, glycinein, genistein, formononetin, and biochanin A), resp.  
 ST supercrit carbon dioxide extn **isoflavone** soy Trifolium LC MS  
 IT Mass spectrometry (HPLC combined with; supercrit. fluid extraction of **isoflavones** from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)  
 IT Flavones  
 RL: BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)  
 (**isoflavone** glycosides; supercrit. fluid extraction of

isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT Glycosides  
 RL: BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)  
 (isoflavone; supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT HPLC  
 (mass spectrometry combined with; supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT Flow  
 Glycine max  
 Pressure  
 Spray atomizers  
 Temperature  
 Trifolium pratense  
 (supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT Glycans  
 RL: BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)  
 (supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT Extraction  
 (supercrit., carbon dioxide; supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT 446-72-0P, Genistein 485-72-3P, Formononetin 486-62-4P, Ononin 486-66-8P, Daidzein 491-80-5P, Biochanin A 529-59-9P, Genistin 552-66-9P, Daidzin 574-12-9P, Isoflavone 5928-26-7P, Sissotrin 40246-10-4P, Glycitin 40957-83-3P, Glycitein  
 RL: BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)  
 (supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

IT 64-19-7, Acetic acid, uses 75-05-8,  
 Acetonitrile, uses 124-38-9, Carbon dioxide, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Adlerkreutz, H; Ann Med 1997, V29, P95
- (2) Chandra, A; Phytochem Anal 1996, V7, P259 HCPLUS
- (3) Cheng, Y; Rapid Commun Mass Spectrom 2001, V75, P151
- (4) de Rijke, E; Anal Bioanal Chem 2004, V378, P995 HCPLUS
- (5) de Rijke, E; J Chromatogr A 2001, V932, P55 HCPLUS
- (6) de Rijke, E; J Sep Sci 2004, V27, P1061 HCPLUS
- (7) Dixon, R; Comprehensive Natural Products Chemistry 1999
- (8) Franke, A; J Agric Food Chem 1994, V42, P1905 HCPLUS
- (9) He, X; Plant Cell 2000, V12, P1689 HCPLUS
- (10) Huie, C; Anal Bioanal Chem 2002, V373, P23 HCPLUS
- (11) Klejdus, B; Anal Chim Acta 2001, V450, P81 HCPLUS
- (12) Klejdus, B; Anal Chim Acta 2004, V517, P1 HCPLUS
- (13) Klejdus, B; Chem Listy 2003, V97, P530 HCPLUS
- (14) Klejdus, B; J Chromatogr A 1999, V839, P261 HCPLUS
- (15) Lin, L; J Chromatogr A 2000, V876, P87 HCPLUS

(16) Liu, C; Plant Cell 2001, V13, P2643 HCPLUS  
 (17) Neue, U; J Sep Sci 2001, V24, P921 HCPLUS  
 (18) Nurmi, T; Anal Biochem 1999, V274, P110 HCPLUS  
 (19) Rostagno, M; Food Chem 2002, V78, P111 HCPLUS  
 (20) Shirley, B; Seed Sci Res 1998, V8, P415 HCPLUS  
 (21) Stobiecki, M; Phytochem Anal 1999, V10, P198 HCPLUS  
 (22) Ventura, K; private communication  
 (23) Wang, Y; J Natl Cancer Inst 1995, V87, P1456 MEDLINE  
 (24) Zhou, J; J Nutr 1999, V129, P1628 HCPLUS

IT 446-72-0P, Genistein 486-66-8P, Daidzein

529-59-9P, Genistin 552-66-9P, Daidzin

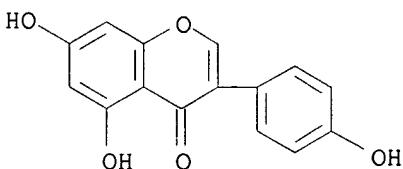
40246-10-4P, Glycitin 40957-83-3P, Glycitein

RL: BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)

(supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

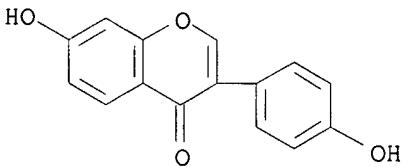
RN 446-72-0 HCPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 486-66-8 HCPLUS

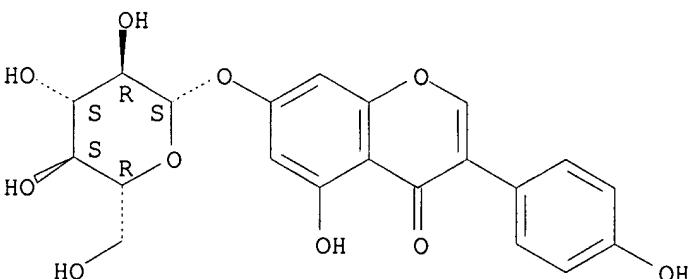
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 529-59-9 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-(β-D-glucopyranosyloxy)-5-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

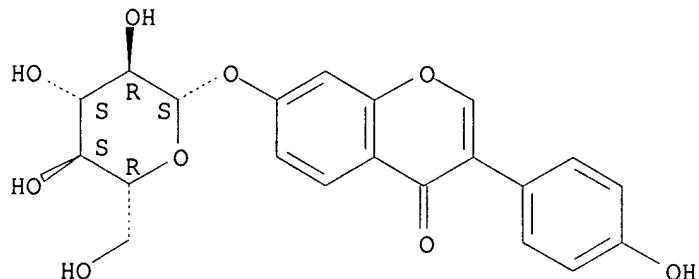
Absolute stereochemistry.



RN 552-66-9 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-(9CI) (CA INDEX NAME)

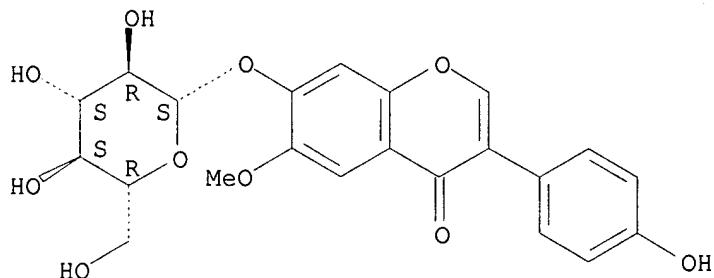
Absolute stereochemistry. Rotation (-).



RN 40246-10-4 HCPLUS

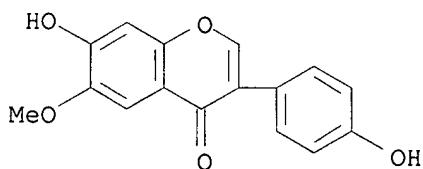
CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 40957-83-3 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA INDEX NAME)



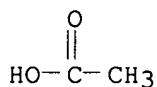
IT 64-19-7, Acetic acid, uses

RL: NUU (Other use, unclassified); USES (Uses)

(supercrit. fluid extraction of isoflavones from biol. samples with ultra-fast high-performance liquid chromatog./mass spectrometry)

RN 64-19-7 HCPLUS

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



L47 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:118258 HCAPLUS

DN 142:196939

ED Entered STN: 10 Feb 2005

TI **Isoflavone aglycon**-enriched soybeans, their manufacture, and processed foods manufactured from the soybeans

IN Oike, Masaki; Matsumoto, Hiroyuki

PA Mizkan Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM A23L0001-20

ICS A23C0011-10

CC 17-10 (Food and Feed Chemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005034145	A2	20050210	JP 2004-186912	20040624
PRAI	JP 2003-185236	A	20030627		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 2005034145	ICM ICS IPCI FTERM	A23L0001-20 A23C0011-10 A23L0001-20 [ICM, 7]; A23C0011-10 [ICS, 7] 4B001/AC08; 4B001/EC99; 4B020/LB02; 4B020/LB12; 4B020/LB13; 4B020/LB18; 4B020/LC05; 4B020/LG01; 4B020/LK03; 4B020/LP02
---------------	-----------------------------	--

AB Title soybeans are manufactured by immersing soybeans in aqueous **solns.** of 0.1-2 weight/volume% organic **acids** at 20-40°. Thus, soybeans were immersed in 1% aqueous **AcOH** at 30° for 6 h to show the content of daidzein 139.1, glycinein 7.9, and genistein 97.9 µg/g.

ST **isoflavone aglycon** enrichment soybean org acid;  
**acetic acid** deglycosylation soybean; daidzein glycinein genistein enrichment soybean **acetic acid**

IT Glycosylation  
(deglycosylation; manufacture of **isoflavone aglycon**  
-enriched soybeans by immersing in aqueous organic acids without heating for health foods)

IT **Aglycons**  
RL: BMF (Bioindustrial manufacture); FFD (Food or feed use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(**isoflavone**; manufacture of **isoflavone aglycon**  
-enriched soybeans by immersing in aqueous organic acids without heating for health foods)

IT Flavones  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**isoflavones**; manufacture of **isoflavone aglycon**  
-enriched soybeans by immersing in aqueous organic acids without heating for health foods)

IT **Glycine max**  
Health food

IT Soybean curd  
 (manufacture of **isoflavone aglycon**-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)

IT Carboxylic acids, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (manufacture of **isoflavone aglycon**-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)

IT Glycine max  
 (natto; manufacture of **isoflavone aglycon**-enriched  
 soybeans by immersing in aqueous organic acids without heating for health  
 foods)

IT Glycine max  
 (soybean milk; manufacture of **isoflavone aglycon**  
 -enriched soybeans by immersing in aqueous organic acids without heating for  
 health foods)

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 40957-83-3P, Glycitein  
 RL: BMF (Bioindustrial manufacture); FFD (Food or feed use);  
 BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (manufacture of **isoflavone aglycon**-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)

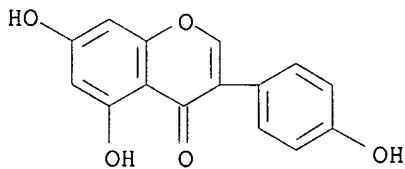
IT 50-21-5, Lactic acid, biological studies 64-19-7, Acetic  
 acid, biological studies 77-92-9, Citric acid, biological  
 studies 526-95-4, D-Gluconic acid 6915-15-7, Malic acid  
 RL: BUU (Biological use, unclassified); BIOL (Biological study);  
 USES (Uses)  
 (manufacture of **isoflavone aglycon**-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)

IT 529-59-9, Genistine 552-66-9, Daidzin 40246-10-4  
 , Glycitin 51011-05-3 71385-83-6 73566-30-0 124590-31-4  
 134859-96-4 137705-39-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manufacture of **isoflavone aglycon**-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 40957-83-3P, Glycitein  
 RL: BMF (Bioindustrial manufacture); FFD (Food or feed use);  
 BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (manufacture of **isoflavone aglycon**-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)

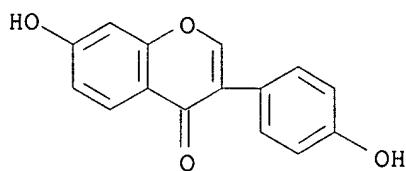
RN 446-72-0 HCPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
 NAME)

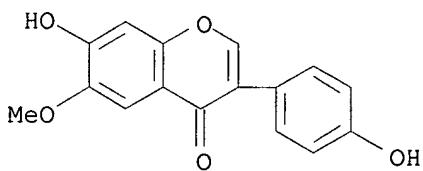


RN 486-66-8 HCPLUS

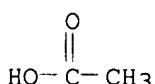
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
 NAME)



RN 40957-83-3 HCPLUS  
 CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA INDEX NAME)

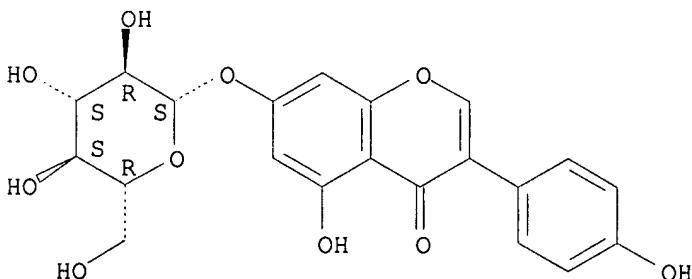


IT 64-19-7, Acetic acid, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study);  
 USES (Uses)  
 (manufacture of isoflavone aglycon-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)  
 RN 64-19-7 HCPLUS  
 CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



IT 529-59-9, Genistin 552-66-9, Daidzin 40246-10-4  
 , Glycitin  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manufacture of isoflavone aglycon-enriched soybeans by  
 immersing in aqueous organic acids without heating for health foods)  
 RN 529-59-9 HCPLUS  
 CN 4H-1-Benzopyran-4-one, 7-(β-D-glucopyranosyloxy)-5-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

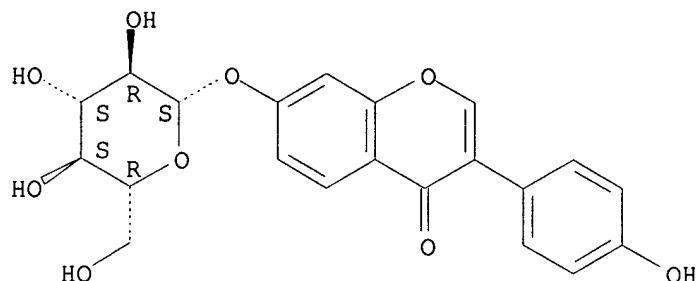
Absolute stereochemistry.



RN 552-66-9 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-  
(9CI) (CA INDEX NAME)

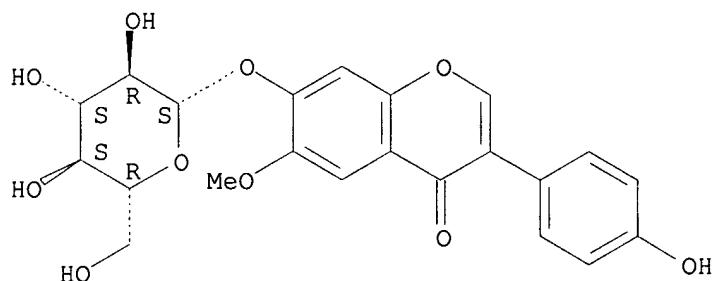
Absolute stereochemistry. Rotation (-).



RN 40246-10-4 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-  
6-methoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L47 ANSWER 3 OF 9 HCPLUS COPYRIGHT 2006 ACS on STN

AN 2004:430792 HCPLUS

DN 141:6199

ED Entered STN: 27 May 2004

TI Method for purifying and separating soy **isoflavones** by using  
acidic solutions

IN Dobbins, Thomas A.

PA Wiley Organics, Inc., USA

SO PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07D0311-36

ICS C07D0311-40

CC 17-10 (Food and Feed Chemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004043945	A1	20040527	WO 2003-US35804	20031112 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,				

TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
 ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,  
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG  
 US 2004215003 A1 20041028 US 2003-706296 20031112 <--  
 PRAI US 2002-425541P P 20021112 <--  
 CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004043945	ICM	C07D0311-36
	ICS	C07D0311-40
	IPCI	C07D0311-36 [ICM, 7]; C07D0311-40 [ICS, 7]
	ECLA	C07D311/36; C07D311/40; C07H001/08; C07H013/08; C07H017/07
US 2004215003	IPCI	C07H0017-00 [ICM, 7]
	NCL	536/008.000
	ECLA	C07D311/36; C07D311/40; C07H001/08; C07H013/08; C07H017/07

AB A method for purifying **isoflavone** glycosides (primarily genistin and daidzin) from impurities present in a soy **isoflavone** concentrate includes digesting the concentrate with an **acidic solution** and separating insol. solids from the **acidic solution**. Thus, 50 g Solgen 40 (a soy **isoflavone** concentrate) is added to 250 mL methanol and 50 mL concentrated HCl and stirred for 1 h at room temperature prior to recovering

the **isoflavone** glycosides by filtration. The filter cake solids may be refluxed with concentrated HCl to obtain the **isoflavone aglycons** by hydrolysis.

ST soybean **isoflavone** purifn; genistin purifn; daidzin purifn

IT Alcohols, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (C1-12, cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Ketones, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (C2-12, cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Esters, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (C3-30, cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (C5-20, cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Aromatic hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (C6-30, cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Hydrolysis

(acid, of **isoflavone** glycosides; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Hydrolysis

(enzymic, of **isoflavone** glycosides; method for purifying and separating soy **isoflavones** by using **acidic solns** .)

IT Acids, uses

RL: NUU (Other use, unclassified); USES (Uses)

(inorg.; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Flavones  
 RL: PUR (Purification or recovery); PREP (Preparation)  
 (**isoflavone glycosides**; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Glycosides  
 RL: PUR (Purification or recovery); PREP (Preparation)  
 (**isoflavone**; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Flavones  
 RL: IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation)  
 (**isoflavones**; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT Glycine max  
 (soybean products; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT 67-56-1, Methanol, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 RL: IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation)  
 (method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT 64-18-6, Formic acid, uses 64-19-7,  
 Glacial acetic acid, uses 7647-01-0,  
 Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-93-9, Sulfuric acid, uses 10035-10-6, Hydrobromic acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (method for purifying and separating soy **isoflavones** by using **acidic solns.**)

IT 529-59-9P, Genistin 552-66-9P, Daidzin  
 40246-10-4P, Glycitin  
 RL: PUR (Purification or recovery); PREP (Preparation)  
 (method for purifying and separating soy **isoflavones** by using **acidic solns.**)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bryan, B; US 5919921 A 1999 HCAPLUS  
 (2) Bryan, B; US 6083553 A 2000 HCAPLUS  
 (3) Meredith, T; WO 02056700 A 2002 HCAPLUS  
 (4) Protein Tech Int; EP 0812837 A 1997 HCAPLUS

IT 67-56-1, Methanol, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (cosolvent; method for purifying and separating soy **isoflavones** by using **acidic solns.**)

RN 67-56-1 HCAPLUS

CN Methanol (8CI, 9CI) (CA INDEX NAME)

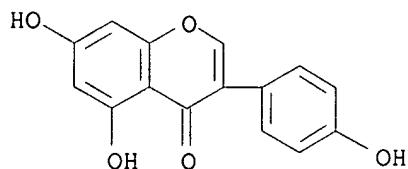
H<sub>3</sub>C—OH

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 RL: IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation)

(method for purifying and separating soy **isoflavones** by using  
acidic solns.)

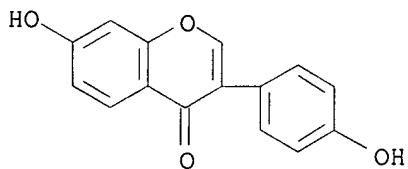
RN 446-72-0 HCPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
NAME)



RN 486-66-8 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
NAME)



IT 64-18-6, Formic acid, uses 64-19-7,  
Glacial acetic acid, uses 7647-01-0,  
Hydrochloric acid, uses 7664-38-2, Phosphoric  
acid, uses 7664-93-9, Sulfuric acid, uses  
10035-10-6, Hydrobromic acid, uses

RL: NUU (Other use, unclassified); USES (Uses)

(method for purifying and separating soy **isoflavones** by using  
acidic solns.)

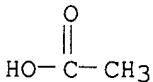
RN 64-18-6 HCPLUS

CN Formic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

O=CH-OH

RN 64-19-7 HCPLUS

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



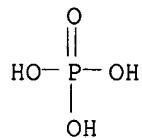
RN 7647-01-0 HCPLUS

CN Hydrochloric acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

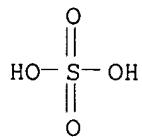
HCl

RN 7664-38-2 HCPLUS

CN Phosphoric acid (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 7664-93-9 HCAPLUS  
 CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)

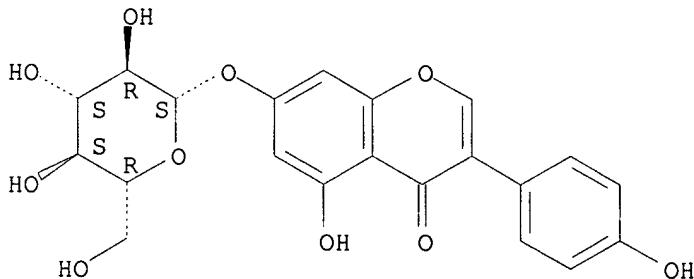


RN 10035-10-6 HCAPLUS  
 CN Hydrobromic acid (8CI, 9CI) (CA INDEX NAME)

HBr

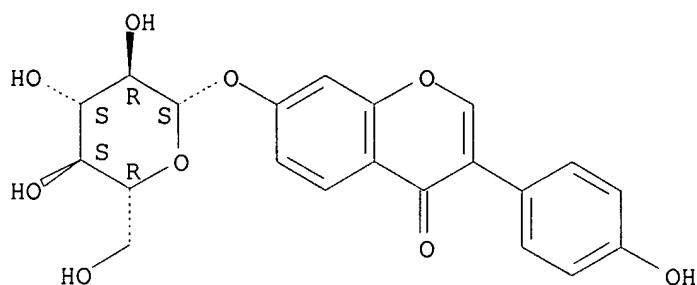
IT 529-59-9P, Genistin 552-66-9P, Daidzin  
 40246-10-4P, Glycitin  
 RL: PUR (Purification or recovery); PREP (Preparation)  
 (method for purifying and separating soy isoflavones by using  
 acidic solns.)  
 RN 529-59-9 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-5-hydroxy-3-(4-  
 hydroxyphenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 552-66-9 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-  
 (9CI) (CA INDEX NAME)

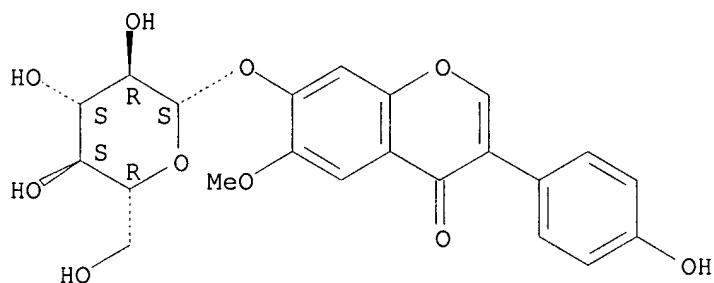
Absolute stereochemistry. Rotation (-).



RN 40246-10-4 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L47 ANSWER 4 OF 9 HCPLUS COPYRIGHT 2006 ACS on STN

AN 2003:796720 HCPLUS

DN 139:296915

ED Entered STN: 10 Oct 2003

TI Process for isolating genistin from mixtures of soy **isoflavones**

IN Dobbins, Thomas A.; Hurst, Deborah C.

PA Wiley Organics, Inc., USA

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07H0017-07

ICS C07H0001-08

CC 63-4 (Pharmaceuticals)

Section cross-reference(s): 11

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003082888	A1	20031009	WO 2003-US9448	20030326
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,				

BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG  
 US 2003216557 A1 20031120 US 2003-397692 20030326  
 PRAI US 2002-367566P P 20020326

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2003082888	ICM	C07H0017-07
	ICS	C07H0001-08
	IPCI	C07H0017-07 [ICM,7]; C07H0001-08 [ICS,7]
US 2003216557	ECLA	C07H001/08; C07H017/07
	IPCI	C07H0017-00 [ICM,7]
	NCL	536/008.000
	ECLA	C07H001/08; C07H017/07

AB A process for enriching the relative concentration of genistin from a mixture of

**isoflavones** is described. In accordance with one aspect of the invention, the process comprises providing a material containing a mixture of **isoflavones**, extracting the material with an aqueous organic solvent solution, adding calcium oxide or calcium hydroxide to the extract to form calcium-**isoflavone** complexes and separating precipitated calcium-**isoflavone** complexes from the extract. The precipitated calcium-**isoflavone** complexes contain a higher concentration of genistin complexes than daidzin and glycinein complexes. Soy **isoflavone** concentrate (100 g Prevastein) with a composition of 49.71% total **isoflavones** containing 33.91% genistin, 13.04% daidzin, 0.69% glycinein glycosides, 1.26% genistein, 0.74% daidzein, 0.07% glycinein **aglycons** was slurried with 1.5 L a solvent containing 80:20 (by weight) acetone-water. The mixture was heated to 50° and 65 g calcium hydroxide was added over a period of 30 min with vigorous agitation. The color of the liquid phase immediately became a vivid lemon yellow, the characteristic hue of **isoflavone** solns. at an elevated pH. After repeated purification the dried filter cake consists of 99.0% genistin, and <1.0% daidzin.

ST genistin purifn soy **isoflavone**

IT Glycine max

(**isoflavones** of; process for isolating genistin from mixts. of soy **isoflavones**)

IT Flavones

RL: NPO (Natural product occurrence); BIOL (Biological study); OCCU (Occurrence)

(**isoflavones**; process for isolating genistin from mixts. of soy **isoflavones**)

IT Solvents

(organic; process for isolating genistin from mixts. of soy **isoflavones**)

IT Alcohols, processes

Ketones, processes

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(process for isolating genistin from mixts. of soy **isoflavones**)

IT 529-59-9P, Genistin

RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process)

(process for isolating genistin from mixts. of soy **isoflavones**)

IT 402834-54-2, Prevastein

RL: NPO (Natural product occurrence); PEP (Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); OCCU

(Occurrence); PROC (Process)  
 (process for isolating genistin from mixts. of soy isoflavones  
 )

IT 486-66-8, Daidzein 552-66-9, Daidzin  
 RL: NPO (Natural product occurrence); PEP (Physical, engineering or  
 chemical process); PYP (Physical process); REM (Removal or disposal); BIOL  
 (Biological study); OCCU (Occurrence); PROC (Process)  
 (process for isolating genistin from mixts. of soy isoflavones  
 )

IT 64-17-5, Ethanol, processes 67-56-1, Methanol, processes  
 1305-62-0, Calcium hydroxide, processes 1305-78-8, Calcium oxide,  
 processes  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical  
 process); PROC (Process)  
 (process for isolating genistin from mixts. of soy isoflavones  
 )

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

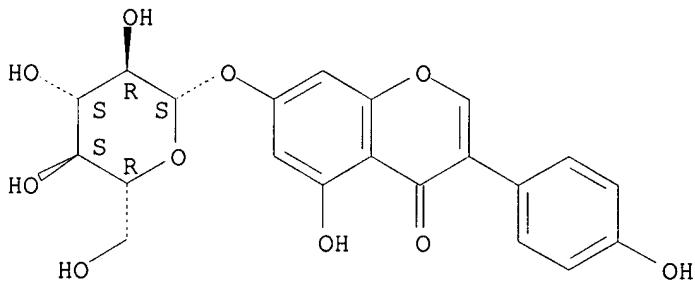
- (1) Archer Daniels Midland Co; EP 0795553 A 1997 HCPLUS
- (2) Day, C; US 5932221 A 1999
- (3) Grabiel, R; US 6033714 A 2000 HCPLUS

IT 529-59-9P, Genistin  
 RL: NPO (Natural product occurrence); PEP (Physical, engineering or  
 chemical process); PUR (Purification or recovery); PYP (Physical  
 process); BIOL (Biological study); OCCU (Occurrence); PREP  
 (Preparation); PROC (Process)  
 (process for isolating genistin from mixts. of soy isoflavones  
 )

RN 529-59-9 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-5-hydroxy-3-(4-  
 hydroxyphenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 402834-54-2, Prevastein

RL: NPO (Natural product occurrence); PEP (Physical, engineering or  
 chemical process); PYP (Physical process); BIOL (Biological study); OCCU  
 (Occurrence); PROC (Process)  
 (process for isolating genistin from mixts. of soy isoflavones  
 )

RN 402834-54-2 HCPLUS

CN Prevastein (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

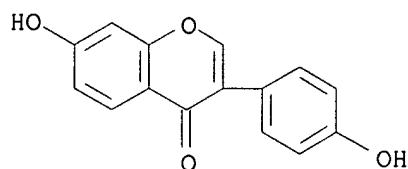
IT 486-66-8, Daidzein 552-66-9, Daidzin

RL: NPO (Natural product occurrence); PEP (Physical, engineering or  
 chemical process); PYP (Physical process); REM (Removal or disposal); BIOL  
 (Biological study); OCCU (Occurrence); PROC (Process)

(process for isolating genistin from mixts. of soy isoflavones  
)

RN 486-66-8 HCAPLUS

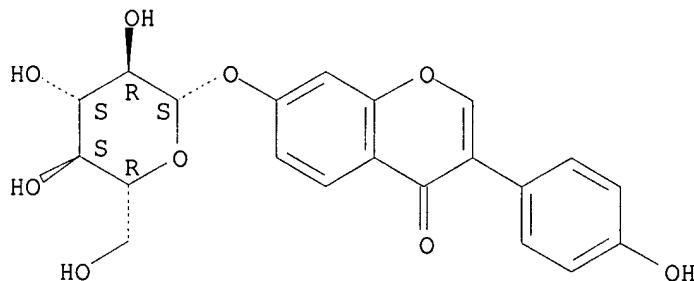
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 552-66-9 HCAPLUS

CN 4H-1-Benzopyran-4-one, 7-( $\beta$ -D-glucopyranosyloxy)-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



IT 64-17-5, Ethanol, processes 67-56-1, Methanol, processes

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)

(process for isolating genistin from mixts. of soy isoflavones  
)

RN 64-17-5 HCAPLUS

CN Ethanol (9CI) (CA INDEX NAME)

H<sub>3</sub>C—CH<sub>2</sub>—OH

RN 67-56-1 HCAPLUS

CN Methanol (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C—OH

L47 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:834769 HCAPLUS

DN 137:294818

ED Entered STN: 04 Nov 2002

TI Preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt

IN Li, Qianguang; Zhang, Zunting; Xue, Dong

PA Shaanxi Normal Univ., Peop. Rep. China

SO Faming Zhuanli Shengqing Gongkai Shuomingshu, 17 pp.  
CODEN: CNXXEV

DT Patent  
LA Chinese

IC ICM C07D0311-34  
ICS A61K0031-352; A61P0009-10  
CC 26-4 (Biomolecules and Their Synthetic Analogs)  
Section cross-reference(s): 1, 63

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1314352	A	20010926	CN 2001-106792	20010314
PRAI CN 2001-106792		20010314		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
CN 1314352	ICM	C07D0311-34
	ICS	A61K0031-352; A61P0009-10
	IPCI	C07D0311-34 [ICM,7]; A61K0031-352 [ICS,7]; A61P0009-10 [ICS,7]

OS CASREACT 137:294818

AB The title compound, useful for treating cerebrovascular and cardiovascular diseases, is synthesized by sulfonation of 4',7-dihydroxyisoflavone with sulfonylating agent (such as H<sub>2</sub>SO<sub>4</sub>, chlorosulfonic acid, K<sub>2</sub>SO<sub>4</sub>, Na<sub>2</sub>SO<sub>4</sub>, or SO<sub>3</sub>) in inert solvent at 20-100° for 5 min-10 h and purifying in 10-20% NaCl solution. The tablet, powder, and injection of the synthetic compound were prepared

ST sodium dihydroxyisoflavonesulfonate prepn cerebrovascular and cardiovascular disease

IT Ischemia

(cardiac; preparation of 4',7-Dihydroxyisoflavone-3'-sulfonic acid Na salt for treating cerebrovascular and cardiovascular diseases)

IT Ischemia

(cerebral; preparation of 4',7-Dihydroxyisoflavone-3'-sulfonic acid Na salt for treating cerebrovascular and cardiovascular diseases)

IT Brain, disease

(cerebrovascular; preparation of 4',7-Dihydroxyisoflavone-3'-sulfonic acid Na salt for treating cerebrovascular and cardiovascular diseases)

IT Brain, disease

Heart, disease  
(ischemia; preparation of 4',7-Dihydroxyisoflavone-3'-sulfonic acid Na salt for treating cerebrovascular and cardiovascular diseases)

IT Anti-ischemic agents

Cardiovascular system, disease  
(preparation of 4',7-Dihydroxyisoflavone-3'-sulfonic acid Na salt for treating cerebrovascular and cardiovascular diseases)

IT Ischemia

Sulfonation  
(preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt by sulfonation of 4',7-dihydroxyisoflavone)

IT 64-19-7, Acetic acid, uses 76-05-1,

Trifluoroacetic acid, uses

RL: NUU (Other use, unclassified); USES (Uses)

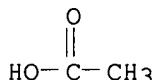
(preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt by sulfonation of 4',7-dihydroxyisoflavone)

IT 7664-93-9, Sulfuric acid, reactions

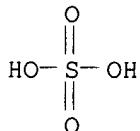
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt

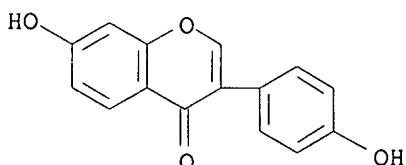
IT by by sulfonation of 4',7-dihydroxyisoflavone)  
 469863-58-9P  
 RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt  
 by by sulfonation of 4',7-dihydroxyisoflavone)  
 IT 486-66-8, 4',7-Dihydroxyisoflavone 7446-11-9, Sulfur trioxide, reactions 7757-82-6, Sodium sulfate, reactions 7778-80-5, Potassium sulfate, reactions 7790-94-5, Chlorosulfonic acid 8014-95-7, Fuming sulfuric acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt  
 by by sulfonation of 4',7-dihydroxyisoflavone)  
 IT 64-19-7, Acetic acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt  
 by by sulfonation of 4',7-dihydroxyisoflavone)  
 RN 64-19-7 HCPLUS  
 CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



IT 7664-93-9, Sulfuric acid, reactions  
 RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
 (preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt  
 by by sulfonation of 4',7-dihydroxyisoflavone)  
 RN 7664-93-9 HCPLUS  
 CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)



IT 486-66-8, 4',7-Dihydroxyisoflavone  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of 4',7-dihydroxyisoflavone-3'-sulfonic acid Na salt  
 by by sulfonation of 4',7-dihydroxyisoflavone)  
 RN 486-66-8 HCPLUS  
 CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L47 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2001:526070 HCAPLUS  
 DN 135:127161  
 ED Entered STN: 20 Jul 2001  
 TI Extraction of flavonoids from plants  
 IN Wallace, Robertgerard; Burong, Willfrits Gerald  
 PA Biorex Health Limited, Australia  
 SO PCT Int. Appl., 46 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English  
 IC ICM C07D0311-38  
 ICS C07D0311-40; C12P0007-00; C12P0007-26  
 CC 63-4 (Pharmaceuticals)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001051482	A1	20010719	WO 2001-AU16	20010111
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2396734	AA	20010719	CA 2001-2396734	20010111
	BR 2001007486	A	20021008	BR 2001-7486	20010111
	EP 1254131	A1	20021106	EP 2001-901019	20010111
	EP 1254131	B1	20051019		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	NZ 519931	A	20030131	NZ 2001-519931	20010111
	JP 2004500374	T2	20040108	JP 2001-551864	20010111
	AU 769739	B2	20040205	AU 2001-26531	20010111
	AT 307126	E	20051115	AT 2001-901019	20010111
	US 2003147980	A1	20030807	US 2002-169968	20021022
PRAI	AU 2000-5043	A	20000111		
	US 2000-175443P	P	20000111		
	WO 2001-AU16	W	20010111		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001051482	ICM	C07D0311-38	
	ICS	C07D0311-40; C12P0007-00; C12P0007-26	
	IPCI	C07D0311-38 [ICM, 7]; C07D0311-40 [ICS, 7]; C12P0007-00 [ICS, 7]; C12P0007-26 [ICS, 7]	
CA 2396734	ECLA	C07D311/38; C07D311/40; C12P017/06	
	IPCI	C07D0311-38 [ICM, 7]; C12P0007-00 [ICS, 7]; C12P0007-26 [ICS, 7]; C07D0311-40 [ICS, 7]	
BR 2001007486	IPCI	C07D0311-38 [ICM, 7]; C07D0311-40 [ICS, 7]; C12P0007-00 [ICS, 7]; C12P0007-26 [ICS, 7]	
EP 1254131	IPCI	C07D0311-38 [ICM, 6]; C07D0311-40 [ICS, 6]; C12P0007-00 [ICS, 6]; C12P0007-26 [ICS, 6]	
NZ 519931	ECLA	C07D311/38; C07D311/40; C12P017/06	
	IPCI	C07D0311-38 [ICM, 7]; C07D0311-40 [ICS, 7]; C12P0017-06 [ICS, 7]	
JP 2004500374	IPCI	C07D0311-30 [ICM, 7]	

FTERM 4C062/EE49; 4C086/AA01; 4C086/AA04; 4C086/BA08;  
 4C086/NA20; 4C086/ZA15; 4C086/ZA16; 4C086/ZA36;  
 4C086/ZB26; 4C086/ZB35  
 AU 769739 IPCI C07D0311-38 [ICM,7]; C07D0311-40 [ICS,7]; C12P0007-00  
 [ICS,7]; C12P0007-26 [ICS,7]  
 AT 307126 IPCI C07D0311-38 [ICM,7]; C07D0311-40 [ICS,7]; C12P0007-00  
 [ICS,7]; C12P0007-26 [ICS,7]; C07D0311-36 [ICS,7];  
 C07D0311-30 [ICS,7]; C07D0311-32 [ICS,7]; C07D0311-62  
 [ICS,7]  
 ECLA C07D311/38; C07D311/40; C12P017/06  
 US 2003147980 IPCI A61K0035-78 [ICM,7]  
 NCL 424/757.000  
 ECLA C07D311/38; C07D311/40; C12P017/06  
 AB A method of producing an enriched flavonoid **aglycon** extract from  
 starting material containing a suitable flavonoid glycoside and/or conjugate  
 thereof comprising the steps of: (i) enzymically converting the flavonoid  
 glycoside or conjugate thereof into the flavonoid **aglycon**; (ii)  
 adjusting the pH to render the flavonoid **aglycon** soluble and  
 removing the insol. fraction; and (iii) adjusting the pH to render the  
 soluble flavonoid **aglycon** relatively insol. and forming an extract  
 containing the same. Dried leaves of clover were ground and extracted with 5M  
 sodium hydroxide solution at pH = 9.6 and then filtered. The pH of the  
 solution  
 was adjusted to 5.3, then concentrated and the remaining solution and  
 precipitate was  
 filtered. The precipitate was dried and the **isoflavone** contents  
 measured. The amount of **isoflavones** obtained from 25 g of clover  
 leaves was 0.128 g.  
 ST extrn flavonoid plant clover  
 IT Flavonoids  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU  
 (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence);  
 PREP (Preparation)  
 (biflavonoids; extraction of flavonoids from plants)  
 IT Alfalfa (*Medicago sativa*)  
 Centrifugation  
 Chickpea (*Cicer arietinum*)  
 Clover (*Trifolium*)  
 Clover (*Trifolium subterraneum*)  
 Crystallization  
 Filtration  
 Freeze drying  
 Lupine (*Lupinus*)  
 Sound and Ultrasound  
 Soybean (*Glycine max*)  
 Sweet clover (*Melilotus alba*)  
 (extraction of flavonoids from plants)  
 IT Flavones  
 Flavonoids  
 Proanthocyanidins  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU  
 (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence);  
 PREP (Preparation)  
 (extraction of flavonoids from plants)  
 IT Alkali metal hydroxides  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (extraction of flavonoids from plants)  
 IT Glycosides  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU  
 (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence);

IT PREP (Preparation)  
 (flavonoid; extraction of flavonoids from plants)

IT Flavones  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence);  
 PREP (Preparation)  
 (hydroxy; extraction of flavonoids from plants)

IT Flavones  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence);  
 PREP (Preparation)  
 (isoflavones; extraction of flavonoids from plants)

IT Flavonoids  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence);  
 PREP (Preparation)  
 (neoflavonoids; extraction of flavonoids from plants)

IT 90-18-6P, Quercetagetin 94-41-7P, Chalcone 117-39-5P, Quercetin 154-23-4P, Catechin 446-72-0P, Genistein 480-11-5P, Oroxylin a 480-15-9P, Datisctein 480-16-0P, Morin 480-19-3P, Isorhamnetin 480-20-6P, Dihydrokaempferol 480-40-0P, Chrysin 480-41-1P, Naringenin 480-43-3P, Ponciretin 480-44-4P, Acacetin 481-53-8P, Tangeretin 485-72-3P, Formononetin 486-66-8P, Daidzein 487-26-3P, Flavanone 490-31-3P, Robinetin 490-46-0P, Epicatechin 491-67-8P, Baicalein 491-70-3P, Luteolin 491-71-4P, Chrysoeriol 491-80-5P, Biochanin a 494-12-2P, Flavan 520-18-3P, Kaempferol 520-33-2P, Hesperetin 520-34-3P, Diosmetin 520-36-5P, Apigenin 528-48-3P, Fisetin 529-44-2P, Myricetin 529-53-3P, Scutellarein 552-58-9P, Eriodictyol 577-85-5P, Flavonol 582-04-7P, Aurone 632-85-9P, Wogonin 1083-30-3P, Dihydrochalcone 1481-83-0P, Flavan-3-ol 2284-31-3P, Pratensein 5908-63-4P, Baptogenin 20725-03-5P, Fustin 22888-70-6P, Silybin 29782-68-1P, Silidianin 55084-08-7P, skullcapflavone II 65666-07-1P, Silymarin  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PNU (Preparation, unclassified); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
 (extraction of flavonoids from plants)

IT 9000-90-2, takadiastase 9001-45-0,  $\beta$ -glucuronidase 9012-54-8, Cellulase 9025-56-3, Hemicellulase 9031-11-2,  $\beta$ -galactosidase 9032-75-1, pectinase 9032-92-2, Glycosidase 9068-31-9, naringinase 37213-47-1, hesperidinase 39346-29-7,  $\beta$ -glycosidase 54427-02-0, anthocyanase 56093-15-3, rhamnodiastase  
 RL: BUU (Biological use, unclassified); CAT (Catalyst use); BIOL (Biological study); USES (Uses)  
 (extraction of flavonoids from plants)

IT 50-21-5, Lactic acid, uses 64-19-7, Acetic acid, uses 77-92-9, Citric acid, uses 79-09-4, Propionic acid, uses 87-69-4, Tartaric acid, uses 127-09-3, Sodium acetate 1305-62-0, Calcium hydroxide, uses 1310-58-3, Potassium hydroxide, uses 1310-73-2, Sodium hydroxide, uses 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-41-7, Ammonia gas, uses 7664-93-9, Sulfuric acid, uses 7697-37-2, Nitric acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (extraction of flavonoids from plants)

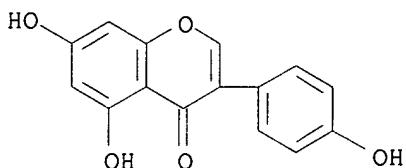
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Johnson; US 5936069 A 1999 HCPLUS  
 (2) Kikkoman Corp; JP 10316671 A 1998 HCPLUS  
 (3) Nichimo Kk; WO 9935138 1998 HCPLUS

(4) Novogen Inc; AU 7016398 A1 1998  
 (5) Protein Technologies International Inc; EP 827698 A2 1998 HCPLUS  
 (6) Shen; US 5320949 A 1994 HCPLUS  
 (7) Shen, J; US 5851792 A 1998 HCPLUS

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);  
 PNU (Preparation, unclassified); BIOL (Biological study); OCCU  
 (Occurrence); PREP (Preparation)  
 (extraction of flavonoids from plants)

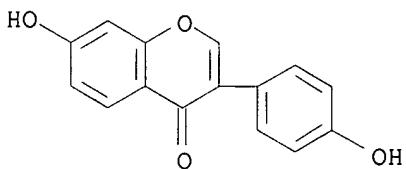
RN 446-72-0 HCPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
 NAME)



RN 486-66-8 HCPLUS

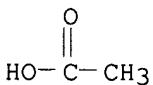
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
 NAME)



IT 64-19-7, Acetic acid, uses 7647-01-0  
 , Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses  
 7664-93-9, Sulfuric acid, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (extraction of flavonoids from plants)

RN 64-19-7 HCPLUS

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



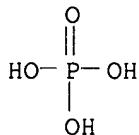
RN 7647-01-0 HCPLUS

CN Hydrochloric acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

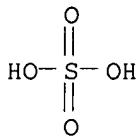
HCl

RN 7664-38-2 HCPLUS

CN Phosphoric acid (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 7664-93-9 HCPLUS  
 CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)



L47 ANSWER 7 OF 9 HCPLUS COPYRIGHT 2006 ACS on STN  
 AN 2001:435492 HCPLUS  
 DN 135:18818  
 ED Entered STN: 15 Jun 2001  
 TI Soy **isoflavone** concentrate process and product  
 IN Dobbins, Thomas A.; Konwinski, Arthur H.  
 PA Central Soya Company, Inc., USA  
 SO U.S. Pat. Appl. Publ., 7 pp., Cont.-in-part of U.S. Ser. No. 169,896.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM C07D0311-04  
 ICS C07D0311-74; C07D0311-76  
 INCL 549403000  
 CC 17-6 (Food and Feed Chemistry)  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2001003781 US 6369200 US 6228993	A1 B2 B1	20010614 20020409 20010508	US 2000-730000 US 1998-169896	20001204 19981012
PRAI	US 1997-62046P US 1998-169896	P A2	19971015 19981012		

## CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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	US 6228993	ECLA IPCI NCL ECLA	A23L001/30B2; A61K035/78 A23J0001-14 [ICM, 7]; A61K0035-78 [ICS, 7]; A61K0047-00 [ICS, 7]; A23B0004-03 [ICS, 7]; A01N0037-18 [ICS, 7] 530/378.000; 424/439.000; 426/044.000; 426/046.000; 426/472.000 A23L001/30B2; A61K035/78

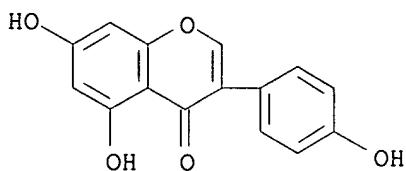
AB A novel process for making an **isoflavone** concentrate product from soybeans which includes diluting solubles from alc.-extracted hexane-defatted soybean flakes to about 10 to about 30% solids, separating undissolved solids

from the diluted soy solubles, such that the separated solids have at least 4% **isoflavones** by weight of dry matter. That concentrate can then be further concentrated to at least 40% **isoflavones** by weight of dry matter by adjusting pH and temperature and extracting with solvents. The soy **isoflavone** concentrate products are then used in a liquid or dry beverage, food or nutritional products.

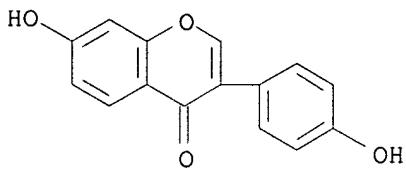
ST soybean **isoflavone** purifn food additive  
 IT Food  
     (dietetic; soy **isoflavone** concentrate process and product)  
 IT Temperature effects, biological  
     (heat; soy **isoflavone** concentrate process and product)  
 IT Flavones  
   RL: FFD (Food or feed use); PUR (Purification or recovery); BIOL  
     (Biological study); PREP (Preparation); USES (Uses)  
     (**isoflavones**; soy **isoflavone** concentrate process and  
     product)  
 IT Beverages  
     (powdered concs.; soy **isoflavone** concentrate process and product)  
 IT Food additives  
   Freeze drying  
   Health food  
   Soybean (Glycine max)  
     (soy **isoflavone** concentrate process and product)  
 IT Alkanes, biological studies  
   RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
     (soy **isoflavone** concentrate process and product)  
 IT Fatty acids, processes  
   RL: REM (Removal or disposal); PROC (Process)  
     (soy **isoflavone** concentrate process and product)  
 IT Drying  
     (spray; soy **isoflavone** concentrate process and product)  
 IT 67-64-1, Acetone, biological studies 110-54-3, Hexane, biological  
   studies 1310-73-2, Sodium hydroxide, biological studies  
   7647-01-0, Hydrochloric acid, biological studies  
   RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
     (soy **isoflavone** concentrate process and product)  
 IT 446-72-0P, Genistein 486-66-8P, Daidzein  
   529-59-9P, Genistin 552-66-9P, Daidzin  
   40957-83-3P, Glycitein  
   RL: PUR (Purification or recovery); PREP (Preparation)  
     (soy **isoflavone** concentrate process and product)  
 IT 7647-01-0, Hydrochloric acid, biological studies  
   RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
     (soy **isoflavone** concentrate process and product)  
 RN 7647-01-0 HCAPLUS  
 CN Hydrochloric acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

HCl

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
   529-59-9P, Genistin 552-66-9P, Daidzin  
   40957-83-3P, Glycitein  
   RL: PUR (Purification or recovery); PREP (Preparation)  
     (soy **isoflavone** concentrate process and product)  
 RN 446-72-0 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
   NAME)

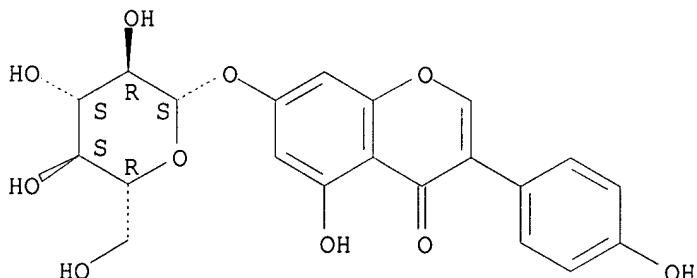


RN 486-66-8 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



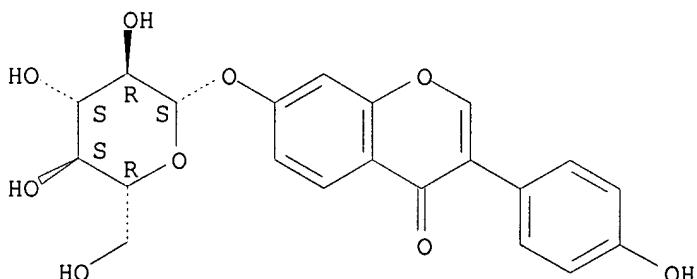
RN 529-59-9 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 7-(β-D-glucopyranosyloxy)-5-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



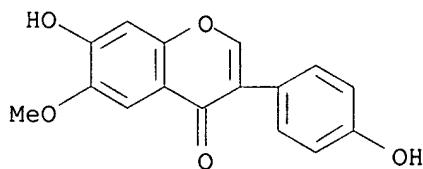
RN 552-66-9 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 7-(β-D-glucopyranosyloxy)-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 40957-83-3 HCAPLUS  
 CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)-6-methoxy- (9CI) (CA

INDEX NAME)



L47 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:337471 HCAPLUS  
 DN 132:305864  
 ED Entered STN: 22 May 2000  
 TI Preparation of **aglucone isoflavone** enriched plant  
 protein extract and outlier  
 IN Shen, Jerome L.; Bryan, Barbara A.  
 PA Protein Technologies International Inc., USA  
 SO Faming Zhanli Shengqing Gongkai Shuomingshu, 13 pp.  
 CODEN: CNXXEV  
 DT Patent  
 LA Chinese  
 IC ICM A23J0001-14  
 ICS C07D0311-36  
 CC 11-1 (Plant Biochemistry)  
 Section cross-reference(s): 7, 17  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1216685	A	19990519	CN 1998-107903	19980504
	CN 1104202	B	20030402		
	ES 2160895	T3	20011116	ES 1997-306003	19970807
	US 6015785	A	20000118	US 1997-961829	19971031
	RU 2206230	C2	20030620	RU 1998-107586	19980416
	CA 2237419	AA	19990430	CA 1998-2237419	19980512
	BR 9801763	A	19990720	BR 1998-1763	19980603
	AU 9890490	A1	19990520	AU 1998-90490	19981102
	AU 738774	B2	20010927		
	JP 11236397	A2	19990831	JP 1998-311737	19981102
	JP 3609273	B2	20050112		
PRAI	US 1997-961829	A	19971031		
	US 1996-307752	A1	19960412		
	EP 1997-306003	A	19970807		

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	CN 1216685	ICM	A23J0001-14
		ICS	C07D0311-36
	ES 2160895	IPCI	A23J0001-14 [ICM,6]; C07D0311-36 [ICS,6]
		IPCI	A23J0003-16 [ICM,7]; A23J0003-14 [ICS,7]; A23L0001-20 [ICS,7]; A23L0001-211 [ICS,7]
	US 6015785	IPCI	A61K0031-35 [ICM,6]; A61K0038-02 [ICS,6]; C07K0014-415 [ICS,6]; C12P0017-06 [ICS,6]
		IPCR	C07K0014-415 [I,A]; C07K0014-415 [I,C]; C12P0017-02 [I,C]; C12P0017-06 [I,A]
		NCL	514/002.000; 514/455.000; 514/456.000; 530/370.000; 530/378.000
		ECLA	C07K014/415; C12P017/06

RU 2206230 IPCI A23J0001-14 [ICM,7]; A23J0003-16 [ICS,7]  
 CA 2237419 IPCI A61K0038-01 [ICM,6]; C12P0017-06 [ICS,6]; A23J0003-14  
 [ICS,6]; C07D0311-40 [ICS,6]  
 BR 9801763 IPCI C07K0014-415 [ICM,6]; A23J0003-16 [ICS,6]; A23J0003-34  
 [ICS,6]  
 AU 9890490 IPCI A61K0035-78 [ICM,6]; A61K0031-35 [ICS,6]; A23J0001-14  
 [ICS,6]  
 JP 11236397 IPCI C07K0014-415 [ICM,6]; A61K0031-00 [ICS,6]; A61K0035-78  
 [ICS,6]; A61K0038-00 [ICS,6]

AB The process comprises extracting the plant protein substances with aqueous extracting

agent which has pH value higher than that of the isoelec. point of the protein, allowing glucosyl **isoflavone** to react with  $\beta$ -glucosidase and/or esterase to obtain the **aglucone isoflavone**-enriched protein extract, adjusting the PH of the extract with edible acid to the isoelec. point to precipitate the protein, and separating to

obtain the **aglucone isoflavone**-enriched protein. The edible acid is selected from HCl, H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub>, and HOAc.

ST **aglucone isoflavone** vegetable protein prepn; health food vegetable protein ext **aglucone isoflavone**

IT Flavones

Flavones

RL: PUR (Purification or recovery); PREP (Preparation)  
 (**isoflavone** glycosides; preparation of **aglucone isoflavone** enriched plant protein extract)

IT Glycosides

Glycosides

RL: PUR (Purification or recovery); PREP (Preparation)  
 (**isoflavone**; preparation of **aglucone isoflavone** enriched plant protein extract)

IT Proteins, general, preparation

RL: PUR (Purification or recovery); PREP (Preparation)  
 (plant; preparation of **aglucone isoflavone** enriched plant protein extract)

IT Health food

Isoelectric point

Legume (Fabaceae)

Soybean (Glycine max)

(preparation of **aglucone isoflavone** enriched plant protein extract)

IT Isoflavonoids

RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
 (preparation of **aglucone isoflavone** enriched plant protein extract)

IT 446-95-7P, Genisteine 486-66-8P, Daidzein

RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
 (preparation of **aglucone isoflavone** enriched plant protein extract)

IT 9001-22-3,  $\beta$ -Glucosidase 9013-79-0, Esterase

RL: CAT (Catalyst use); USES (Uses)  
 (preparation of **aglucone isoflavone** enriched plant protein extract)

IT 64-19-7, Acetic acid, uses 7647-01-0

, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses 7664-93-9, Sulfuric acid, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (preparation of aglucone isoflavone enriched plant  
 protein extract)

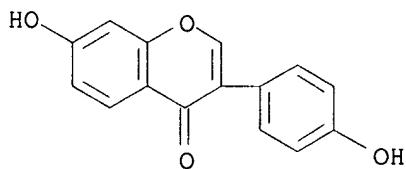
IT 486-66-8P, Daidzein

RL: BOC (Biological occurrence); BPN (Biosynthetic preparation);  
 BSU (Biological study, unclassified); BIOL (Biological study); OCCU  
 (Occurrence); PREP (Preparation)

(preparation of aglucone isoflavone enriched plant  
 protein extract)

RN 486-66-8 HCPLUS

CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX  
 NAME)

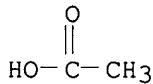


IT 64-19-7, Acetic acid, uses 7647-01-0  
 , Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses  
 7664-93-9, Sulfuric acid, uses

RL: NUU (Other use, unclassified); USES (Uses)  
 (preparation of aglucone isoflavone enriched plant  
 protein extract)

RN 64-19-7 HCPLUS

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



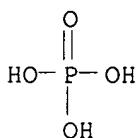
RN 7647-01-0 HCPLUS

CN Hydrochloric acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

HCl

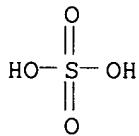
RN 7664-38-2 HCPLUS

CN Phosphoric acid (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 7664-93-9 HCPLUS

CN Sulfuric acid (8CI, 9CI) (CA INDEX NAME)



L47 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:116846 HCAPLUS  
 DN 132:148759  
 ED Entered STN: 18 Feb 2000  
 TI A method of identifying and recovering products exuded from a plant  
 IN Raskin, Ilya  
 PA Rutgers, the State University of New Jersey, USA  
 SO PCT Int. Appl., 78 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A01K0065-00  
 ICS C12Q0001-02  
 CC 9-12 (Biochemical Methods)  
 Section cross-reference(s): 5, 11, 16, 17, 62, 63

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000007437	A1	20000217	WO 1999-US17893	19990806
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2339739	AA	20000217	CA 1999-2339739	19990806
	AU 9953423	A1	20000228	AU 1999-53423	19990806
	AU 771575	B2	20040325		
	EP 1100324	A1	20010523	EP 1999-939064	19990806
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	US 1998-130185	A	19980806		
	WO 1999-US17893	W	19990806		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000007437	ICM	A01K0065-00	
	ICS	C12Q0001-02	
	IPCI	A01K0065-00 [ICM,6]; C12Q0001-02 [ICS,6]	
CA 2339739	ECLA	C12Q001/02B; C12Q001/18; G01N033/50F	
	IPCI	C12Q0001-02 [ICM,6]; A01K0065-00 [ICS,6]; A61K0038-00 [ICS,6]	
AU 9953423	IPCI	A01K0065-00 [ICM,6]; C12Q0001-02 [ICS,6]	
EP 1100324	IPCI	A01K0065-00 [ICM,6]; C12Q0001-02 [ICS,6]	
AB	This invention provides a method of identifying biol. active or otherwise valuable substances exuded from or onto a plant surface, specifically the plant cuticle. This invention also provides a method of identifying and recovering substances exuded from or onto the roots of a plant. The		

invention further comprises libraries of substances exuded or secreted from various plant species, which may be elicited or induced to produce one or more of such substances. Leaves and roots of various plants were contacted with solvent and the solvent exts. were bioassayed against bacteria and fungi suspensions to screen for antibacterial and antifungal activity. Root exudates and cuticular washings were also subjected to a sniffing test.

ST plant exudate bioagent identification purifn; antimicrobial agent screening plant exudate; odor screening plant wash

IT Isoflavonoids  
 RL: ANT (Analyte); BPN (Biosynthetic preparation); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); PREP (Preparation)  
 (HPLC separation of, from soybeans; identifying and recovering products exuded from plants)

IT Cell wall  
 (as biotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)

IT Condiments  
 (flavor-enhancing; identifying and recovering products exuded from plants)

IT *Acalypha hispida*  
*Aconitum napellus*  
*Actinidia kolomikta*  
*Agrimony (Agrimonia eupatoria)*  
*Agrimony (Agrimonia pilosa)*  
*Ajuga reptans*  
*Alchemilla*  
*Allium fistulosum*  
*Allium nutans*  
*Anchusa officinalis*  
*Anemone japonica*  
*Angelica polymorpha*  
*Angelica sinensis*  
*Anthericum ramosum*  
*Anthurium elegans*  
*Antibacterial agents*  
*Antimicrobial agents*  
*Aristolochia clematitis*  
*Arnica chamissonis*  
*Artemisia absinthium*  
*Avens (Geum fanieri)*  
*Avens (Geum macrophyllum)*  
*Baptisia australis*  
*Barberry (Berberis)*  
*Belladonna (Atropa belladonna)*  
*Bergenia crassifolia*  
*Bioassay*  
*Birch (Betula alba)*  
*Birch (Betula nigra)*  
*Birch (Betula pendula)*  
*Brassica juncea*  
*Cachrys alpina*  
*Calycanthus floridus*  
*Campanula carpatica*  
*Caper (Capparis spinosa inermis)*  
*Carlina acaulis*  
*Celosia argentea cristata*  
*Celtis occidentalis*  
*Cerasus japonica*

Chestnut (*Castanea sativa*)  
Chickpea (*Cicer arietinum*)  
Chilopsis linearis  
Chimonanthus praecox  
Cistus incanus  
Cladium mariscus  
Clematis mandschurica  
Clematis recta  
Clerodendrum speciosissimum  
Codiaeum variegatum  
Columbine (*Aquilegia vulgaris*)  
Comfrey (*Symphytum officinale*)  
Convallaria majalis  
Crambe pontica  
Creosote bush (*Larrea tridentata*)  
Cunninghamia lanceolata  
Cyathula officinalis  
Cyperus esculentus  
Cypress (*Cupressus lusitanica*)  
Cypress (*Cupressus sempervirens*)  
Datura metel  
Datura suaveolens  
Digitalis lutea  
Dolichos lablab  
Drug screening  
Echinops sphaerocephalus  
Eclipta alba  
Elder (*Sambucus nigra*)  
Elecampane (*Inula helenium*)  
Ephedra nevadensis  
Eryngium campestre  
Erythrina crista-galli  
Erythrina glabiflora  
Euptelea pleiosperma  
Fagopyrum suffruticosum  
Ficus triangularis  
Flavor  
Flax (*Linum hirsutum*)  
Fractionation  
Fungicides  
Galium spurium  
Genista tinctoria  
Gentian (*Gentiana tibetica*)  
Ginkgo biloba  
Gnetum gnemon  
Grape (*Vitis labrusca*)  
Gratiola officinalis  
HPLC  
Hazel (*Corylus avellana*)  
Heracleum pubescens  
Herbicides  
Horse chestnut (*Aesculus hippocastanum*)  
Horse chestnut (*Aesculus woerlitzensis*)  
Horseradish (*Armoracia lapathifolia*)  
Hosta fortunei  
Hosta lancifolia  
Hosta sieboldii  
Hydroponics  
Hyoscyamus niger  
Hyssopus seravschanicus

Insecticides  
Ipomoea purpurea  
Ipomoea tricolor  
Iris pallida  
Iris pseudacorus  
Jacobinia  
Kigelia pinnata  
Laser trilobum  
Laurus nobilis  
Leaf  
Leonurus sibiricus  
Liatris spicata  
Livistona chinensis  
Loquat (Eriobotrya japonica)  
Lupine (Lupinus luteus)  
Lupine (Lupinus polyphyllus)  
Macleaya cordata  
Magnolia cobus  
Matteuccia struthiopteris  
Meadow rue (Thalictrum)  
Meadow rue (Thalictrum flavum)  
Meadow rue (Thalictrum minus)  
Menispermum dauricum  
Metrosideros excelsa  
Murraya exotica  
Oak (Quercus imbricaria)  
Oak (Quercus nigra)  
Oak (Quercus rubra)  
Odor and Odorous substances  
Oreopanax capitatus  
Osmanthus fragrans  
Ostrya carpinifolia  
Ostrya connogea  
Oxybaphus nyctagineus  
Pachira affinis  
Papaya (Carica papaya)  
Peganum harmala  
Peony (Paeonia daurica)  
Peony (Paeonia lactiflora)  
Peony (Paeonia suffruticosa)  
Pepper (Piper cubeba)  
Perfumes  
Persimmon (Diospyros kaki)  
Philodendron speciosum  
Phoenix zeylanica  
Phyllanthus grandifolius  
Physalis creticola  
Physalis ixocarpa  
Pine (Pinus pinea)  
Pithecellobium unguis-cati  
Plant analysis  
Podocarpus spinulosa  
Podophyllum hexandrum  
Polygonum aviculare  
Polygonum latifolium  
Portulaca oleracea  
Pot marjoram  
Potentilla alba  
Poterium sanguisorba  
Psychotria metbacterio-domasica

Psychotria nigropunctata  
 Pterygota alata  
 Rauvolfia caffra  
 Rhododendron  
 Root  
 Rose (Rosa multiflora)  
 Rue (Ruta graveolens)  
 Sanchezia nobilis  
 Schisandra chinensis  
 Scotch broom (Cytisus scoparius)  
 Scutellaria altissima  
 Scutellaria baicalensis  
 Scutellaria creticola  
 Sedum album  
 Sedum telephium  
 Selinum monnierii  
 Senecio plattyphyllos  
 Senna (Cassia fasciculata)  
 Senna (Cassia hebecarpa)  
 Silk oak (Grevillea robusta)  
 Silybum marianum  
 Solvent extraction  
 Solvents  
 Sorbus aucuparia  
 Soybean (Glycine max)  
 St.-John's-wort (Hypericum perforatum)  
 Sweet clover (Melilotus medicaginoides)  
 Tamarind (Tamarindus indica)  
 Tarragon (Artemisia dracunculus)  
 Taxodium distichum  
 Tephrosia grandiflora  
 Tetraclinis articulata  
 Teucrium hamedris  
 Thermopsis fabacea  
 Thuja occidentalis  
 Thyme (Thymus cretaceus)  
 Trevesia sundaica  
 Trichosanthes kirilowii  
 Tulip tree  
 UV radiation  
 Veratrum nigrum  
 Vinca minor  
 Walnut (Juglans regia)  
 Willow (Salix babylonica)  
 Xanthium sibiricum  
     (identifying and recovering products exuded from plants)  
 IT Phosphatidic acids  
 Polyoxyalkylenes, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
     (identifying and recovering products exuded from plants)  
 IT Metabolism  
     (metabolites, solvent extraction of plant cuticular material containing;  
     identifying and recovering products exuded from plants)  
 IT Aspergillus flavus  
 Bacteria (Eubacteria)  
 Fungi  
 Microorganism  
 Penicillium nigra  
 Pseudomonas aeruginosa  
 Saccharomyces cerevisiae

Staphylococcus aureus aureus  
 Virus  
   (response of; identifying and recovering products exuded from plants)

IT Lipids, analysis  
 Proteins, general, analysis  
 Waxes  
 RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
   (solvent extraction of plant cuticular material containing; identifying and recovering products exuded from plants)

IT Escherichia coli  
   (strain K-12.F, response of; identifying and recovering products exuded from plants)

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 RL: ANT (Analyte); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
   (HPLC separation of, from soybeans; identifying and recovering products exuded from plants)

IT 64-19-7, Acetic acid, biological studies  
 7761-88-8, Silver nitrate, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
   (as abiotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)

IT 119-36-8, Methyl salicylate 1211-29-6, Methyl jasmonate 9012-76-4, Chitosan  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
   (as biotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)

IT 54-11-5P, Nicotine 4569-98-6P, 5-O-Methyl-genistein  
 RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
   (identifying and recovering products exuded from plants)

IT 50-81-7, L-Ascorbic acid, uses 67-66-3, Chloroform, uses 69-72-7, Salicylic acid, uses 70-18-8, Glutathione, uses 71-50-1, uses 75-09-2, Methylene chloride, uses 151-21-3, SDS, uses 303-07-1, 2,6-Dihydroxybenzoic acid 445-29-4, 2-Fluorobenzoic acid 506-32-1, Arachidonic acid 541-35-5, Butanamide 602-94-8, Pentafluorobenzoic acid 621-82-9, Cinnamic acid, uses 4685-14-7, Paraquat 6894-38-8, Jasmonic acid 7439-92-1, Lead, uses 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 7681-49-4, Sodium fluoride, uses 7722-84-1, Hydrogen peroxide, uses 7732-18-5, Water, uses 9008-22-4, Laminarin 9046-38-2, Polygalacturonic acid 25249-06-3, Polygalacturonic acid 25322-68-3 26780-96-1, HSL 32839-30-8, Eicosapentaenoic acid 41034-18-8 78111-17-8, Okadaic acid 101932-71-2, Calyculin A 147852-83-3  
   RL: NUU (Other use, unclassified); USES (Uses)  
   (identifying and recovering products exuded from plants)

IT 54990-88-4, Cutin  
 RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
   (solvent extraction of plant cuticular material containing; identifying and recovering products exuded from plants)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Chakraborty; FOLIA Microbiol 1994, V39(5), P409 HCPLUS

(2) Grieve, M; A Modern Herbal: The Medicinal, Culinary, Cosmetic And Economic Properties, Cultivation And Folklore Of Herbs, Grasses, Fungi, Shrubs And Trees With All Their Modern Scientific Uses 1996, P464

(3) Liu; Dokkyo Journal Of Medical Sciences 1995, V22(4), P253 HCPLUS

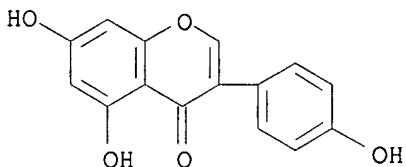
(4) Stevens; Phytochemistry 1995, V39(4), P805 HCPLUS

(5) Tyler, V; Herbs of Choice: the Therapeutic Use of Phytomedicinals 1994, P77

IT 446-72-0P, Genistein 486-66-8P, Daidzein  
 RL: ANT (Analyte); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
 (HPLC separation of, from soybeans; identifying and recovering products exuded from plants)

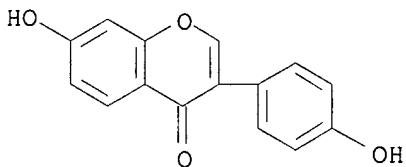
RN 446-72-0 HCPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



RN 486-66-8 HCPLUS

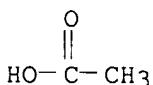
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



IT 64-19-7, Acetic acid, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study);  
 USES (Uses)  
 (as abiotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)

RN 64-19-7 HCPLUS

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)



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jan delaval - 26 january 2006

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[http://www.stn-international.de/stndatabases/details/ipc\\_reform.html](http://www.stn-international.de/stndatabases/details/ipc_reform.html) and  
[<<<](http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf)  
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L89 ANSWER 1 OF 7 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN  
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 DNC C2004-157802  
 TI Purification of isoflavone glycosides of genistin and daidzin from soy  
 isoflavones concentrate, useful to reduce blood cholesterol level,  
 comprises digestion of soy isoflavones concentrate in an acidic solution  
 and separation.  
 DC B02  
 IN DOBBINS, T A  
 PA (WILE-Y) WILEY ORGANICS INC; (DOBB-I) DOBBINS T A  
 CYC 107  
 PI WO 2004043945 A1 20040527 (200439)\* EN 18 C07D311-36 <--  
 RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE  
 LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE  
 DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG  
 KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM  
 PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ  
 VC VN YU ZA ZM ZW  
 AU 2003291446 A1 20040603 (200470) C07D311-36 <--  
 US 2004215003 A1 20041028 (200471) C07H017-00  
 ADT WO 2004043945 A1 WO 2003-US35804 20031112; AU 2003291446 A1 AU 2003-291446  
 20031112; US 2004215003 A1 Provisional US 2002-425541P 20021112, US  
 2003-706296 20031112  
 FDT AU 2003291446 A1 Based on WO 2004043945  
 PRAI US 2002-425541P 20021112; US 2003-706296 20031112  
 IC ICM C07D311-36; C07H017-00  
 ICS C07D311-40  
 AB WO2004043945 A UPAB: 20040621

NOVELTY - Purification of isoflavone glycosides (A) of genistin and daidzin, from soy isoflavones concentrate (I) comprises digesting (I) with an acidic solution and separating insoluble solids from the acidic solution.

DETAILED DESCRIPTION - Purification of glycosides of genistin and daidzin from impurities present in (I) comprises digesting (I) with an acidic solution and separating insoluble solids from the acidic solution. (where the solids are enriched in genistin and comprise glycosides of genistin and daidzin). An INDEPENDENT CLAIM is also included for preparing aglycons of genistin and daidzin comprises digesting (I) with a first acidic solution, separating insoluble solids (where the insoluble solids comprise glycosides of genistin and daidzin) and converting glycosides to aglycons.

ACTIVITY - Cytostatic; Antilipemic; Osteopathic.

MECHANISM OF ACTION - None given.

USE - (A) is useful to inhibit cancer cell growth, to reduce the amount of low density lipoprotein (LDL) cholesterol, to lower blood cholesterol levels, to prevent bone loss and to increase bone density.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B06-A01; B14-F06; B14-H01; B14-N01

TECH UPTX: 20040621

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The ratio of (I) to the acidic solution is between 3:1-10:1 by weight. The acid solution comprises (a) glacial acetic acid or formic acid (preferably glacial acetic acid) and an organic co-solvent or organic solvent (preferably 1-12 C containing alcohols, 5-20C containing aliphatic hydrocarbons, 6-30C aromatic hydrocarbons, 2-12C containing ketones and/or 3-30C containing esters; or (b) a mineral acid (preferably hydrochloric acid, hydrobromic acid, sulfuric acid and/or phosphoric acid) and an alcoholic co-solvent, preferably 1-10C containing alcohols. The acid solution is preferably hydrochloric acid and methanol in a volume ratio of about 1:5. Preferred Method: Digestion of (I) is at 10-100 (preferably 18-25) degrees C. Preparation of aglycons of genistin and daidzin further comprises dissolving aglycons in an alkaline aqueous solution to obtain an alkaline aqueous solution containing dissolved aglycons, separating insoluble impurities from alkaline aqueous solution, acidifying alkaline aqueous solution to precipitate the aglycons as insoluble solids and separating the insoluble solids from acidified solution. The conversion of glycosides to aglycons comprises acidic or enzymatic hydrolysis, where the acid hydrolysis is by refluxing the solids in a second acidic solution and separating insoluble solids from the second acidic solution, wherein the insoluble solids, separated from the second acidic solution are enriched in genistin and comprise aglycons of genistin and daidzin. The pH of the alkaline aqueous solution is between 10-14 (preferably 10.5-11.5) (where the alkaline aqueous solution includes at least one primary cation of sodium, potassium, calcium or ammonium. The acidifying step comprises adjusting the pH of the solution to a value of between 1-7 (preferably 1-4) with a mineral acid (preferably hydrochloric acid, hydrobromic acid, sulfuric acid and/or phosphoric acid) and the dissolving and separating (from insoluble solids) steps are performed at below 35 degrees C. The ratio of (I) to the first acidic solution is between 3:1-10:1/weight. Purifying glycosides of genistin, daidzin, and glycerin from impurities present in (I) comprises digesting (I) with an acidic solution comprising glacial acetic acid in conjunction with an organic solvent that reduces the polarity of glacial acetic acid, thereby increasing the solubilities of daidzin and glycerin and separating the insoluble solids from acidic solution, (where the solids comprise glycosides of genistin, daidzin, and glycerin)

ABEX

UPTX: 20040621

EXAMPLE - Solgen 40 (50.0 gm) containing genistin (26.9%), daidzin (11.9%), glycetin (2.0%) with negligible aglycon content and genistin-to-daidzin ratio of 2.3:1, was added to methanol (75 ml) and concentrated hydrochloric acid (15 ml) in an Erlenmeyer flask equipped with a magnetic stirring bar and reflux condenser. The mixture was heated on a hotplate to reflux at 66degrees C and maintained at reflux for 15 minutes, then cooled to 20degrees C. The resulting slurry was worked up to give a solid containing genistin (54.48%/wt) and daidzin (9.47 %/wt), of total isoflavones (63.95%) with the genistin-to-daidzin ratio was 5.75:1 and no glycetin or isoflavone aglycons were detected.

L89 ANSWER 2 OF 7 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN 2003-894905 [82] WPIX

CR 2001-354308 [37]; 2001-424091 [45]; 2002-112941 [15]

DNC C2003-254164

TI Preparation of an isoflavone concentrate useful in liquid or dry beverage, food or nutritional products, by diluting solubles from alcohol-extracted hexane-defatted soybean flakes, and separating undissolved solids.

DC D13 E13

IN DOBBINS, T A; KONWINSKI, A H

PA (CENS) CENTRAL SOYA CO

CYC 1

PI US 6369200 B1 20020409 (200382)\* 6 A23J001-14

ADT US 6369200 B1 Provisional US 1997-62046P 19971015, CIP of US 1998-169896 19981012, US 2000-730000 20001204

FDT US 6369200 B1 CIP of US 6228993

PRAI US 1997-62046P 19971015; US 1998-169896 19981012; US 2000-730000 20001204

IC ICM A23J001-14

ICS A23J001-09; A23L001-20; A23L001-28; C07D311-04

AB US 6369200 B UPAB: 20031223

NOVELTY - Use of by-product soy solubles to low-cost soy isoflavone concentrate products, by recovery from alcohol-extracted hexane-defatted soybean flakes

DETAILED DESCRIPTION - Isoflavones are concentrated, by (a) mixing a material provided by separating undissolved solids from soy solubles with a solvent; (b) adjusting this to pH 6-7; (c) heating; and (d) decanting the solvent from the solvent to form an isoflavones extract.

INDEPENDENT CLAIMS are also included for

(1) a similar process comprising (i) diluting solubles from desolvanted alcohol-extracted hexane-defatted soybeans flakes using to water to 10-30% solids; (ii) separating undissolved solids from the dilution; (iii) mixing the solids with acetone and adjusting to pH 6-7; (iv) heating; and (v) decanting.

(2) A liquid or dry beverage, food or nutritional product comprising the extracted isoflavone; and

(3) An acetone extracted soy isoflavone product comprising 40% isoflavones by weight of dry matter and a genistin to daidzin ratio of 1.5-2.5:1.

USE - The isoflavone concentrate is useful for inhibiting cancer cell growth, lowering blood-cholesterol levels, moderating the normal symptoms associated with the menopause, and promoting bone and heart health

ADVANTAGE - The concentrate may be prepared as a liquid or dry beverage, food or other nutritional product

Dwg.0/0

FS CPI  
 FA AB; DCN  
 MC CPI: D03-H01T2; E06-A01; E11-Q01  
 TECH UPTX: 20031223

TECHNOLOGY FOCUS - FOOD - Preferred ingredients: the isoflavones material is provided by diluting to 10-30% solids, and separating off undissolved solids to form a material having 4% or more isoflavones relative to dry matter. The solvent used is acetone, and the pH is adjusted to 6.4-6.8 with the heating step at 57-58degreesC. The mixture is cooled to 50-60degreesC before decantation, such that a solid by-product is formed containing 60 wt.% protein. Optionally, the process further includes removing acetone from the decanted extract, adjusting the pH to 10-10.5 using sodium hydroxide to saponify lipids and phospholipids, heating and lowering the pH to 4.5-5 using hydrochloric acid to release free fatty acids from the saponified lipids, then adding an alkane (e.g. hexane) and removing it. The alkane-removed material is further dried to form a product containing 40 wt.% isoflavones.

Preferred Composition: 55-75% of the isoflavones are genistin 20-40% are daizin and less than 5% are glycinein when the isoflavones are reported in the aglucone form.

ABEX UPTX: 20031223

EXAMPLE - Solubles with 53.5% solids and 11.6 mg. per g. total isoflavanones (wet basis) were recovered from alcohol-extracted hexane-defatted soybeans flakes. The solids content of the solubles was adjusted to 18%, and the slurry obtained passed through a scroll-type centrifuge at 30 gallons per minute. The cake contained 27% solids, and was diluted to 18% solids. This was then pasteurised at 170degreesF and spray-dried at 400 pounds of dry solids per hour in a vertical spray dryer using pressure nozzles. The spray-dried product contained 6.1% total isoflavones.

L89 ANSWER 3 OF 7 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN  
 AN 2003-788336 [74] WPIX  
 DNC C2003-217733

TI Enriching genistin from mixture of isoflavones comprises adding calcium oxide or calcium hydroxide to organic solvent extract of mixture of isoflavones and separating obtained calcium-isoflavone complexes.

DC B02

IN DOBBINS, T A; HURST, D C

PA (DOBB-I) DOBBINS T A; (HURS-I) HURST D C; (WILE-N) WILEY  
 ORGANICS INC

CYC 103

PI WO 2003082888 A1 20031009 (200374)\* EN 17 C07H017-07  
 RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS  
 LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL  
 PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU  
 ZA ZM ZW

US 2003216557 A1 20031120 (200377) C07H017-00

AU 2003231977 A1 20031013 (200435) C07H017-07

ADT WO 2003082888 A1 WO 2003-US9448 20030326; US 2003216557 A1 Provisional US  
 2002-367566P 20020326, US 2003-397692 20030326; AU 2003231977 A1 AU  
 2003-231977 20030326

FDT AU 2003231977 A1 Based on WO 2003082888

PRAI US 2002-367566P 20020326; US 2003-397692 20030326

IC ICM C07H017-00; C07H017-07

ICS C07H001-08

AB WO2003082888 A UPAB: 20031117

NOVELTY - Enriching genistin from a mixture of isoflavones comprises:

- (1) extracting material containing a mixture of isoflavones with aqueous organic solvent solution;
- (2) adding calcium oxide or calcium hydroxide to the extract, and
- (3) separating precipitated calcium-isoflavone complexes from the extract.

USE - Used for enriching genistin from a mixture of isoflavones, particularly soy isoflavone concentrates (claimed).

ADVANTAGE - The process uses readily synthesized calcium complex of genistin that is less soluble in mixtures of polar organic solvents and water than the corresponding calcium complexes of daidzin and glycitin, permitting the genistin to be readily separated through filtration or centrifugation.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B05-A01B

TECH UPTX: 20031117

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The organic solvent solution is a solution containing alcohol of low molecular weight and/or ketone. The alcohol comprises methanol and/or ethanol. The ketone is acetone.

Preferred Process: The process also includes reconvert ing precipitated calcium-isoflavone complexes to form a product comprising free isoflavone glycosides and converting free isoflavone glycosides to aglycones.

Preferred Composition: The product has a genistin content of at least 80%. The product comprises genistin and daidzin in a ratio of 20:1 (wt.).

ABEX UPTX: 20031117

EXAMPLE - Soy isoflavone concentrate containing (in %): 74.48 total isoflavones comprising 60.72% genistin, 13.16 daidzin and 0.60 glycitin glycosides and 0.24 genistein, 0.22 daidzein and 0.01 glycine aglycons was slurried with 80 weight% acetone and 20 weight% water (1.5 l) and heated. Calcium hydroxide (65 g) was added over 30 minutes and the mixture was processed by repeated stirring and filtering through Whatman number 4 paper to give a final filter cake comprising at least 99% genistin glycoside (65%).

L89 ANSWER 4 OF 7 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

AN 2003-046977 [04] WPIX

DNC C2003-012059

TI Process for preparation of isoflavone used for chemical manufacture, involves reacting hydroxy aryl alkyl ketone with formic-sulfuric anhydride salt, in presence of base.

DC B02 E13

IN BURDICK, D C

PA (HOFF) ROCHE VITAMINS AG; (STAM) DSM IP ASSETS BV; (BURD-I) BURDICK D C

CYC 99

PI WO 2002085881 A1 20021031 (200304)\* EN 15 C07D311-36 <--  
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
 NL OA PT SD SE SL SZ TR TZ UG ZM ZW  
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO  
 RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
 EP 1392671 A1 20040303 (200417) EN C07D311-36 <--  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI TR  
 AU 2002338399 A1 20021105 (200433) C07D311-36 <--  
 BR 2002009157 A 20040608 (200438) C07D311-36 <--

KR 2004018361 A 20040303 (200443) C07D311-36 <--  
 US 2004158082 A1 20040812 (200454) C07D311-74 <--  
 JP 2004526784 W 20040902 (200457) 26 C07D311-16 <--  
 CN 1505621 A 20040616 (200465) C07D311-36 <--  
 MX 2003009686 A1 20040201 (200473) C07D311-36 <--  
 ADT WO 2002085881 A1 WO 2002-EP4319 20020419; EP 1392671 A1 EP 2002-742905  
 20020419, WO 2002-EP4319 20020419; AU 2002338399 A1 AU 2002-338399  
 20020419; BR 2002009157 A BR 2002-9157 20020419, WO 2002-EP4319 20020419;  
 KR 2004018361 A KR 2003-713801 20031022; US 2004158082 A1 WO 2002-EP4319  
 20020419, US 2004-474418 20040311; JP 2004526784 W JP 2002-583408  
 20020419, WO 2002-EP4319 20020419; CN 1505621 A CN 2002-808879 20020419;  
 MX 2003009686 A1 WO 2002-EP4319 20020419, MX 2003-9686 20031022  
 FDT EP 1392671 A1 Based on WO 2002085881; AU 2002338399 A1 Based on WO  
 2002085881; BR 2002009157 A Based on WO 2002085881; JP 2004526784 W Based  
 on WO 2002085881; MX 2003009686 A1 Based on WO 2002085881  
 PRAI EP 2001-110212 20010425  
 IC ICM C07D311-16; C07D311-36; C07D311-74  
 AB WO 200285881 A UPAB: 20030117

NOVELTY - 2-hydroxy aryl alkyl ketone (II) is reacted with formic-sulfuric anhydride salt (III), in presence of a base to obtain a 2H-isoflavone (I). The reaction is followed by neutralization.

DETAILED DESCRIPTION - A 2-hydroxy aryl alkyl ketone of formula (II) is reacted with formic-sulfuric anhydride salt of formula (III), in presence of a base, to obtain a 2H-isoflavone of formula (I). The reaction is followed by neutralization.

R3, R5, R2', R3', R5', R6' = H, OH, alkoxy, (substituted) alkyl or unsaturated alkyl;

R4, R4' = H, OH or alkoxy;

R6 = H, OH, alkoxy, or optionally substituted alkyl;

X = metallic cation, ammonium, amine salt, salt of heterocyclic base, quaternary ammonium or phosphonium salt including polymeric or polymer bound forms; and

n = 1-4;

provided that:

(i) when R3 is not H or OH then the atoms form a substituent which optionally comprises a heterocyclic ring of oxygen and carbon atoms attached to position 4 of the ring;

(ii) when R4 = alkoxy then the elements of the substituent comprise a heterocyclic ring of carbon and oxygen atoms attached to positions 3 or 5;

(iii) when R5 is not H or OH, the atoms of the substituent comprise a heterocyclic ring of carbon and oxygen atoms attached to the ring at position 4 to form saturated or unsaturated rings like methylene dioxy or dihydrofuran, dihydropyran or pyrene rings;

(iv) when R3' is not H or OH, the atoms of the substituent optionally comprise a heterocyclic ring of carbon and oxygen atoms attached to position 2' or 4';

(v) when R4' is not H or OH, the elements of the substituent optionally comprise a heterocyclic ring of carbon and oxygen which are attached at position 3' or 5';

(vi) when R5 is not H or OH, the atoms of the substituent form a heterocyclic ring of carbon and oxygen atoms attached to position 4', where the rings are saturated or unsaturated and optionally substituted with alkyl groups.

USE - For preparing isoflavone, especially 5,7-dihydroxy isoflavone such as genistein, used for manufacturing chemicals.

ADVANTAGE - The process is performed in short duration without loss of performance. High yields of isoflavone are obtained.

Dwg.0/0

FS CPI

FA AB; GI; DCN  
 MC CPI: B06-A02; B11-C01C; E06-A02C; E11-A  
 TECH UPTX: 20030117

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The base comprises sodium carbonate, potassium carbonate, calcium carbonate, triethylamine, tributylamine and di-isopropylethylamine. The counter ion of the formic-sulfuric anhydride is sodium, potassium, calcium, triethylammonium, tributylammonium or di-isopropylethyl ammonium. The solvent is ether, ester or amide.

Preferred Process: The process is performed at -20 degrees C to +20 degrees C, with optional heating up to 100 degrees C.

ABEX UPTX: 20030117

EXAMPLE - Acetyl chloride (99 g) was added to a stirred suspension of anhydrous sodium formate (130 g) in ethyl acetate (60 ml) at 20 degrees C. The suspension was stirred for 6 hours, filtered and the solid was washed with ethyl acetate (2 x 25 ml). The combined filtrate and rinse were analyzed by NMR which showed 3 mol.% acetic anhydride, 3.5 mol.% formic anhydride and 30 mol.% formic-acetic anhydride. 2,4,6-trihydroxy phenyl-4'-hydroxy benzyl ketone (22 g) was added to the solution (193 g), followed by drop by drop addition of di-isopropyl ethyl amine (118 g). The reactants were stirred and hydrochloric acid (100 ml) was added and heated to 90 degrees C to remove distillate (115 g). Water (225 ml) was added to the residue, for crystallization. The slurry was cooled, kept at 0 degrees C for 30 minutes, followed by filtration. The solids were rinsed with water and dried at 60 degrees C for 6 hours at 25 mbar, to obtain a white powder (19.6 g). Quantitative analysis showed that the powder contained genistein (97.3 weight%) and 2-methyl genistein (2.5 weight%). Yield of genistein was 79 %.

DEFINITIONS - Preferred Definitions:

R4, R6, R4' = OH.

L89 ANSWER 5 OF 7 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN  
 AN 2001-354308 [37] WPIX  
 CR 2001-424091 [45]; 2002-112941 [15]; 2003-894905 [82]  
 DNC C2001-109749  
 TI Production of isoflavone concentrates useful in liquid or dry beverages, food and nutritional products involves extracting material separated from desolvanted solubles from alcohol-extracted hexane-defatted soybean flakes.

DC D13 E13  
 IN DOBBINS, T A; KONWINSKI, A H  
 PA (DOBB-I) DOBBINS T A; (KONW-I) KONWINSKI A H  
 CYC 1  
 PI US 2001003781 A1 20010614 (200137)\* 7 C07D311-04 <--  
 ADT US 2001003781 A1 Provisional US 1997-62046P 19971015, CIP of US  
 1998-169896 19981012, US 2000-730000 20001204

PRAI US 1997-62046P 19971015; US 1998-169896 19981012;  
 US 2000-730000 20001204

IC ICM C07D311-04  
 ICS C07D311-74; C07D311-76  
 AB US2001003781 A UPAB: 20031223

NOVELTY - A process for concentrating isoflavones comprises:  
 (a) providing an isoflavone material separated from desolvanted solubles from alcohol-extracted hexane-defatted soybean flakes;  
 (b) mixing with a solvent and adjusting the pH to 6-7;  
 (c) heating; and  
 (d) decanting the solvent extract of isoflavones.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an isoflavone product separated from desolvanted solubles from

alcohol-extracted hexane-defatted soybean flakes without substantial conversion or fractionation of isoflavones. The product contains at least 40% isoflavones by weight of dry matter and a genistin to daidzin ratio of about 1.5-2.5 to 1.

USE - The isoflavone product is used in liquid or dry beverages, food and nutritional products (claimed).

ADVANTAGE - The process uses by-product soy solubles. Concentrates containing at least 40 weight% isoflavones can be produced.

Dwg.0/0

FS CPI  
 FA AB; DCN  
 MC CPI: D03-H01; D03-H01T; E06-A01; E10-F02C; E11-Q01  
 TECH UPTX: 20010704

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: The starting material is provided by diluting the desolventized solubles to about 10-30% solids and separating undissolved solids from the diluted solubles. The material has at least 4% isoflavones by weight of dry matter. The solvent of step (b) is acetone, the pH is 6.4-6.8 and heating is at 57-58 degreesC. The mixture is cooled to 50-60 degreesC before the decanting step, which produces a solid byproduct containing at least 60% by weight of the protein in the material. The process further comprises:

- (e) cooling the extract,
- (f) decanting,
- (g) removing the acetone from the decanted extract,
- (h) adjusting the pH of the extract and heating,
- (i) adding an alkane,
- (j) optionally heating and mixing (30 minutes) and
- (k) removing the alkane.

Cooling step (e) is at less than 10 degreesC and the heating in step (h) is at 50-60 degreesC. Decanting step (f) produces a solid byproduct primarily composed of phytochemicals in the material that are not the isoflavones. Step (h) is performed by raising the pH of the solution to 10-10.5 with sodium hydroxide to saponify (phospho)lipids in the material, heating and lowering the pH to 4.5-5 with hydrochloric acid to release free fatty acids from the saponified (phospho)lipids. The alkane is hexane and the removed hexane contains the majority of the free fatty acids. The alkane removed extract is dried to form a product containing at least 40% isoflavones by weight. The alkane removed solution is chilled to 5 degreesC and solids are separated to be dried in the drying step.

Preferred Product: At least 55-75% of the isoflavones are genistein, at least 20-40% are daidzein and less than 5% are glycinein (when their isoflavones are reported in the aglucone form). The product is separated from an isoflavone material aqueously separated from the solubles, with the material having at least 4% isoflavones by weight of dry matter, the product and the material having a genistin to daidzin ratio of about 1.5-2 to 1 and the solubles and the soybean having a genistin to daidzin ratio of about 1-1.5 to 1.

ABEX UPTX: 20010704

EXAMPLE - Solubles with 53.5% solids and 11.6 mg/g total isoflavones on a wet basis were recovered from alcohol-extracted hexane-defatted soybean flakes. The solids content of the solubles was adjusted to 18%, and the resulting slurry was passed through a scroll-type centrifuge at a feed rate of 30 gallons per minute. The cake contained about 27% solids, and was diluted to about 18% solids. It was then pasteurized at 170 degreesF, and spray dried at a rate of 400 pounds of dry solids per hour in a vertical spray dryer using pressure nozzles. The spray-dried product contained 6.1% total isoflavones.

DNC C1999-023084  
 TI Preparation of iso-flavone compounds used in medicaments - comprises extracting soy beans with alcohol, concentrating extract, adding aqueous alkali, optionally adding salt, separating alkali layer and reducing pH to form precipitate.  
 DC B03  
 PA (KIKK) KIKKOMAN CORP  
 CYC 1  
 PI JP 10316671 A 19981202 (199907)\* 3 C07D311-40 <--  
 ADT JP 10316671 A JP 1997-142918 19970519  
 PRAI JP 1997-142918 19970519  
 IC ICM C07D311-40  
 AB JP 10316671 A UPAB: 19990217  
 Preparation of isoflavone compounds (I) comprises extracting soy beans with alcohol or water-containing alcohol, eliminating the alcohol from the extract and concentrating it, adding aqueous alkali to increase the pH to 9 or more, optionally adding salt, separating the alkali layer and adjusting the pH to 5 or less to precipitate (I) and recovering and drying the precipitate.

USE - (I) are useful as active ingredients in medicaments.  
 ADVANTAGE - (I) are efficiently and simply obtained.

Dwg.0/0

FS CPI  
 FA AB; DCN  
 MC CPI: B06-A01

L89 ANSWER 7 OF 7 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN  
 AN 1987-196017 [28] WPIX  
 DNC C1987-081979  
 TI Isolation of iso flavone derivs. from soybeans - by extracting soybeans with aqueous solvent contacting obtd. extract with synthetic adsorbent resin and eluting with organic solvent.  
 DC B02  
 PA (TSUR) TSUMURA JUNTENDO KK  
 CYC 1  
 PI JP 62126186 A 19870608 (198728)\* 3  
 JP 04021670 B 19920413 (199219) 3  
 ADT JP 62126186 A JP 1985-266125 19851128; JP 04021670 B JP 1985-266125 19851128  
 PRAI JP 1985-266125 19851128  
 IC C07D311-36; C07D311-56; C07H017-07  
 AB JP 62126186 A UPAB: 19930922

For isolation of isoflavone derivs. from soybeans, the soybeans are extracted with an aqueous solvent, obtd. extract is, directly or after distillation

of the solvent, contacted with a synthetic adsorbent resin so derivs. in the extract are adsorbed to the resin. Derivs. are eluted from the resin with (mixture of water and) an organic solvent. Pref. extract of soybeans is contacted with 'Diaion HP', 'Amberlite XAD' or 'Duolite S' (RTMs) For elution, solvent of (m)ethanol, isopropanol or acetone is pref.. For purifcn., the resulting eluate is treated by countercurrent partition, recrystallisation or column chromatography.

USE/ADVANTAGE - Soybeans (e.g. seeds of Glycine max Merrill) contain isoflavone derivs. of formula (I): R1 = R2 = H, R3 = glucose, R1 = H, R2 = OCH<sub>3</sub>, R3 = glucose, R1 = OH, R2 = H, R3 = glucose, R1 = R2 = R3 = H or R1 = OH, R2 = R3 = H. Mass-production of (I) is possible at low cost.

0/0

FS CPI  
 FA AB; DCN  
 MC CPI: B06-A01

=> d his

(FILE 'HOME' ENTERED AT 10:07:48 ON 26 JAN 2006)  
DEL HIS

FILE 'HCAPLUS' ENTERED AT 10:08:12 ON 26 JAN 2006  
L1 1 S US20040215003/PN OR (US2003-706296# OR WO2003-US35804 OR US20  
E WILEY/PA,CS  
L2 12 S E26-E29  
E DOBBINS/AU  
L3 21 S E94,E95,E99,E100  
SEL RN L1

FILE 'REGISTRY' ENTERED AT 10:11:57 ON 26 JAN 2006  
L4 12 S E1-E12  
L5 5 S L4 AND NR>=3  
L6 7 S L4 NOT L5  
L7 2 S 64-19-7 OR 64-18-6  
L8 1 S 67-56-1  
L9 4 S L6 NOT L7,L8

FILE 'HCAPLUS' ENTERED AT 10:15:02 ON 26 JAN 2006  
L10 346 S L5(L)PREP+NT/RL  
L11 5772 S L5  
L12 6 S L7(L)USES+NT/RL AND L10  
L13 10 S L7(L)USES+NT/RL AND L11  
L14 10 S L12,L13  
L15 4 S L14 AND L8,L9  
L16 6 S L14 NOT L15  
SEL DN AN 2 4 5  
L17 3 S L16 NOT E13-E21  
L18 7 S L15,L17  
L19 3 S L1-L3 AND L10  
L20 3 S L1-L3 AND L11  
L21 3 S L19,L20  
L22 3 S L21 AND L6-L9

FILE 'REGISTRY' ENTERED AT 10:21:54 ON 26 JAN 2006  
L23 1 S 40957-83-3  
L24 1 S 64-17-5  
L25 1 S 402834-54-2

FILE 'HCAPLUS' ENTERED AT 10:22:30 ON 26 JAN 2006  
L26 465 S L23  
L27 59 S L23(L)PREP+NT/RL  
L28 12 S L26,L27 AND (L7(L)USES+NT/RL OR L24(L)USES+NT/RL)  
L29 3 S L25  
L30 2 S L29 NOT MICE  
L31 10 S L18-L22,L30  
SEL DN AN L28 1 3 7 8 9  
L32 7 S L28 NOT E22-E36  
SEL DN AN 1 3 4 6 7  
L33 2 S L32 NOT E37-E51  
L34 11 S L31,L33  
L35 11 S L34 AND L1-L3,L10-L22,L26-L34  
L36 11 S L35 AND L4,L23-L25  
L37 7 S L36 AND (ACETIC ACID OR FORMIC ACID OR ACOH)  
L38 4 S L36 NOT L37

L39 3 S L36 AND ACID?(L) SOLUTION  
 L40 2 S L39 NOT CEREBROVASCULAR  
 L41 7 S L37, L40  
 L42 2 S L22 NOT L41  
 L43 2 S L42 AND L36  
 L44 9 S L41, L43  
 L45 9 S L44 AND ?ISOFLAV?  
 L46 6 S L45 AND (?AGLYCON? OR ?AGLUCON?)  
 L47 9 S L45, L46  
 SEL HIT RN

FILE 'REGISTRY' ENTERED AT 10:34:27 ON 26 JAN 2006  
 L48 15 S E52-E66

FILE 'REGISTRY' ENTERED AT 10:34:40 ON 26 JAN 2006

FILE 'HCAPLUS' ENTERED AT 10:34:55 ON 26 JAN 2006

FILE 'WPIX' ENTERED AT 10:35:24 ON 26 JAN 2006

SET ICFORMAT ON

L49 94 S C07D311-40/IPC  
 E C07D311/IC, ICM, ICS

L50 197 S E129-E131  
 L51 90 S E137-E139

E C07D311/ICA, ICI

L52 42 S E23  
 L53 5 S E24

E C07D311/ICI

L54 1 S E27  
 L55 303 S L49-L54

E GENISTIN/CN

L56 1 S E3  
 E GENISTEIN/CN

L57 3 S E3  
 E DAIDZIN/CN

L58 1 S E3  
 L59 3 S E2

L60 8 S L56-L59  
 SEL SDCN

EDIT /SDCN /DCN

L61 483 S E1-E8  
 SEL DCSE L60

EDIT E9-E16 /DCSE /DCRE

L62 434 S E9-E16  
 L63 483 S L61, L62

L64 2 S (ACETIC ACID OR FORMIC ACID)/CN  
 L65 21638 S (0247 OR 0246)/DRN OR (R00247 OR R00246)/DCN

L66 1379 S R12062/DCN  
 L67 4423 S (1-0-0-0 OR 11-0-0-0)/DCRE

L68 21640 S L65-L67  
 L69 5 S L68 AND L63

L70 5 S L68 AND L55  
 L71 8 S L69, L70

SEL DN AN 3 8

L72 2 S L71 AND E17-E20  
 L73 49125 S (1704 OR 1889 OR 1714 OR 1711)/DRN

L74 14056 S (R01704 OR R01889 OR R01714 OR R01711)/DCN

L75 4 S (R01704 OR R01889 OR R01714 OR R01711)/SDCN

L76 8037 S (63-0-0-0 OR 62-0-0-0 OR 9-0-0-0 OR 7-0-0-0)/DCRE

L77 49212 S L73, L74, L76

L78 5 S L77 AND L55  
L79 4 S L77 AND L61  
L80 6 S L78,L79  
L81 3 S L80 NOT L71  
L82 2 S L81 NOT BAICALIN/TI  
L83 4 S L72,L82  
E DOBBINS/AU  
L84 12 S E54,E55  
E DOBBINS/PA  
L85 9 S E34,E35  
L86 4 S L84,L85 AND L55,L63  
L87 7 S L83,L86 AND L49-L86  
L88 6 S L87 AND C07D311/IPC  
L89 7 S L87,L88

FILE 'WPIX' ENTERED AT 10:50:23 ON 26 JAN 2006

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